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INTRODUCTION

The Volume No. 11 of the Calcutta University Journal of Information Studies (CUJIS) is going to be published. The members of the Editorial Board convey their gratitude and regards to the authorities of the University for continuous support and financial assistance for the publication of this volume of the Departmental journal 'CUJIS'.

In this issue sixteen articles have been incorporated after careful peer review. Most of the authors are ex-students of the Department excepting two Almost all the authors have been working in the libraries for many years. Just pass out students also have contributed one article which is a survey based work. One article is written by a teacher of Vidyasagar University who has now joined at Jadavpur University. One article is written by University Research Fellow of this University. Most of the authors are experienced with research work, did either Ph.D / M.Phil degree, or doing research work as present.

The period from the publication of CUJIS to this time is remarkable and eventful in the history of the Department of Library & Information Science. The Department has initiated the Semester System in MLIS course from the session 2009-2010 The result of 1st semester MLIS Examination has been published in time. The 2nd Semester examination also has been completed and the process of publication of result is ongoing The Department has faced the expert team for the utilization of 10th plan of UGC Grant and the peer team of NAAC during this period, and in both cases the successful deliberations of the Department with the Hon'ble Members of the two expert teams have been given high esteem about the Department in the academic arena of the University in general, and the Library & Information Science field in particular. Before the visit of the experts of the Peer Team the authorities of the University have granted a lumpsum amount to procure a sizable number of computers in the Department to develop the Computer Lab.

In this year a number of existing teacher in the Department have been promoted from the post of Reader to Professor and Senior Lecturer to Reader. Dr. Ratna Bandyopadhyay, Dr. Biplab Chakrabarti and Dr. Pijush Kanti Panigrahi have become Professors, and Dr. Swapna Banerjee has become Reader with retrospective effects respectively. More over, three new teachers have joined the Department as Lecturers. They are Sri Arabinda Maity, formerly Assistant Librarian, University of Calcutta, Dr. Dibyendu Paul, formerly Lecturer of Kalyani University, and Sri Parikshit Mondal, formerly Lecturer of Vidyasagar University.

A number of teachers of the Department visited abroad on invitation. Prof. Arjun Dasgupta visited Milan, Italy to attend the World Library & Information Congress, 75th IFLA General Conference & Assembly on 23-27 August, 2009. Prof Ratna Bandyopadhyay visited Quebec City, Canada to attend the World Library & Information Congress, 74th IFLA General Conference & assembly on 10-14 August, 2008 and the Golden Jubilee Celebration Programme of the Dept. of Library & Information Science, University of Dhaka in the last part of December, 2009. Prof Biplab Chakrabarti visited Japan to participate and

present a paper in the Conference entitled "World Conference against A & H Bombs at Hiroshima and Nagasaki" on 3-10 August, 2009.

Endowment scholarship named 'South–East Asian Subsistence Fellowship' has been awarded to Ms. Nivedita Bhattacharyya who scored highest marks in the corresponding BLIS examination and pursued MLIS Course for the year 2005 and 2006 respectively.

Nivedita Bhattacharyya had joined the Department as University Research Fellow But now she left that post as she got the assignment as Lecturer in the Department of Library & Information Science, Vidyasagar University. For the other post of URF a panel of two candidates was recommended. In order of preference Sri Rahul Majumdar got appointment letter first. But after a period of four months he got the assignment of Assistant Registrar in North Bengal University. The second name Sabahat Nausheen has joined the North Bengal University as contractual lecturer in Library & Information Science.

Mr. Dipak Kundu and Smt. Abira Chakrabarti, two research scholars of the Department of Library & Information Science of the University have been awarded Ph.D degree under the guidance of Prof. Biplab Chakrabarti. More over, a number of scholars have presented their pre-submission seminar during this period. The Department in its meeting took a decision to hold a national Seminar on the topic entitled "Vision of Library & Information Science Education for Modern India" to be held in the month of March, 2010.

Biplab Chakrabarti
Hony Executive Editor

CONTEN

DIGITIZATION OF OLD AND RARE DOCUMENTS IN HOOGHLY MOHSIN COLLEGE LIBRARY UNDER DLI PROJECT: A REPORT

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Abstract: Conversion/transformation of traditional documents into digital form is commonly known as digitization It is prerequisite for development of a digital library. Hooghly Mohsin College Library has digitized its old and rare collection under the Digital Library of India Project. This paper is an attempt to detail the experiences, digitization process followed, problems faced and old and rare collection of the library for further reference.

Keywords: Digitization, Digital Library of India (DLI), C-DAC, Metadata.

INTRODUCTION

The hi-technology has urged the library to make dramatic changes in order to become functional and relevant in this 21st century. The education sector needs the library as a strong medium or an excellent agent to recognize information in a systematic and well structured way. Computerisation of traditional library and parallel development of digital library can be the effective measure to that end. Digitization of existing traditional documents is the prerequisite to develop a digital library.

Digitization is the capturing and storing of images using a computer with the aid of digital cameras, scanners and CD writers. The electronic photograph of the image is taken and is converted into binary digital code comprising of strings of zeros and ones. In other words, Digitization is representing an object, image, sound, document or a signal (usually an analog signal) by a discrete set of its points or samples The result is called 'digital representation'. Strictly speaking, digitizing means simply capturing an analog signal in digital form, but digitizing texts is also used to mean converting the image text, via optical character recognition

McQuail identifies the process of digitization having immense significance to the computing ideals as it "allows information of all kinds in all formats to be carried with the same efficiency and also intermingled" [7].

Cornell University Library defines digital images as—"electronic snapshots taken of a scene or scanned from documents, such as photographs, manuscripts, printed texts and artwork. The digital image is sampled and mapped as a grid of dots or picture elements (pixels). Each pixel is assigned a tonal value (black, white, shades of gray or colour), which is represented

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in binary codes (zeros and ones). The binary digits (bits) for each pixel are stored in a sequence by a computer and often reduced to a mathematical representation (compressed). The bits are then represented and read by the computer to produce an analog version for display of printing [4].

Digitization of old and rare documents is very important and essential job for every library. Any book which has enhanced value because the demand for the book exceeds the supply, usually because of its importance, scarcity, age, condition, physical and aesthetic properties, association, or subject matter, is known as 'rare book'. The main reasons of digitization are to enhance access and improve preservation. Through digitization, the information from valuable documents (may be in brittle condition) can be accessible from anywhere at any time quickly. Digitization can even make the invisible visible.

The benefits of digital access to any collection can be summarized in the following ways.

- Can be viewed from anywhere, at any time of the day.
- Can be printed from the web.
- Viewers can find what they are looking for quickly and independently.
- Can save time of the reference staff by answering frequently asked questions on the web
- Can enhance images electronically so that they can be viewed with greater legibility.
- Increases use of collections and facilitate learning.
- Digitization can also help to preserve precious materials. Preservation means keeping an object away from harmful effects like loss, damage, destruction etc and prolonging its life to whatever extent possible by maintaining it in a reasonably sound condition for present and future use Digitization is one kind of preservation technique.

The benefits of digital preservation can be mentioned as:

- Digital surrogates minimise handling of fragile materials and the handling of originals.
- Digitization reduces wear and tear of the originals;
- The images of any two-dimensional objects will provide a back-up copy of the original;
- An immediate replacement can be offered for items that are on the verge of complete deterioration;
- Image data can be transferred to multiple storage locations with visual integrity;
- Objects do not have to be re-shelved or located by staff.

HOOGHLY MOHSIN COLLEGE AND ITS LIBRARY : A BRIEF INTRODUCTION

Situated in a quite corner of Chinsurah, the headquarters of Burdwan Division and Hooghly District, Hooghly Mohsin College is one of the oldest and premier

academic institutions in India, promoting the cause of higher education for one hundred and seventy three years long. Following a blueprint prepared by Thomas Babington Macaulay and with the help of a trust fund of the legendary philanthropist Haji Mohammad Mohsin, the college started its maiden journey on the first August, 1836 in Perron's house, a magnificent place of architecture overlooking river Hooghly. There were no universities in India at that time. It was the Hooghly College which was amongst one of the two or three colleges in the whole Bengal. The college emerged as a pioneer institution in India to impart Western education and Oriental education through time. Teaching of liberal arts, culture and empirical sciences acquired excellence in the nineteenth century, and this tradition continued even after independence. For the first hundred years of its existence, the college was known as New Hooghly College. On the occasion of its centenary celebration the college was renamed as Hooghly Mohsin College.

Bankim Chandra Chattopadhyay, Dwijendralal Roy, Akhshay Chandra Sarkar, Rangalal Bandyopadhyay, Hara Chandra Ghosh, who were the students of this college, significantly enriched Bengali as well as Indian literature and culture. The discoverer of the Blac Fever antidote, U.N. Brahamachari, Sahairam Basu made remarkable contribution to the development of modern science. Famous singers of India like Shyamal Mitra, Satinath Mukhopadhyay are also alumni of this college. These names are merely a few representative ones for the alumni of the college have distinguished themselves in different walks of national life. This college stands for a glorious history and tradition of this country.

Besides the sixteen Under Graduate and six Post Graduate departments, the college has a separate Law Section. The college provides its students an excellent setting where they can recognize and utilize their full potential to pursue higher education, become professional and eventually play their own role in the enrichment of intellectual resources of the country to drive and shape his/her future.

Library : Initial enrolment of a huge number of students (as per record 1200) shows enthusiasm for learning that was prevalent in this area [3]. Dr T A Wise, the first principal of this college, realized that the thirst for knowledge of the people of this area could not be satisfied without functional support of a library. His strong will and initiative insisted the then general Committee of Public Instructions to send two members of the committee, Mr C.E. Travelyan and Mr. J.C.C. Sutherland, to visit the college. After visiting the college, they decided to establish a library. It is noteworthy to mention that Mr. C.E. Travelyan during his visit was so impressed that he gifted a part of his own collection of the books to this library. And the library was started its journey with gifted collection in the year 1836. Dr. Wise also sent a proposal to the Government for purchasing books for the library. Government accepted the proposal, and responsibility for the purchase of books had been given to Mr. J. C.C. Sutherland.

In 1837, a rule was made for the establishment of a well-collected library in the college of Hazi Mohammad Mohsin to cater to the learning needs of

the college students and other people of the neighbourhood. Private contribution was also accepted for the expansion of the library as per rule. Local people were allowed to use this library in the extended library hours.

In 1848, the college library had 9,275 books, out of which two-thirds were textbooks. Government reports were also included into the library collection. During the long period of more than 173 years, the college library has collected varieties of sources of learning and preserved them for future use by the learners and researchers and gradually evolved into a golden treasury of Bengal's culture and heritage. At present it possesses about 1,50,000 books and other documents.

Since inception the book collection policy of the library has been acquiring important and valuable documents in addition to text books for its members. Naturally a portion of its collection is enriched with valuable old and rare documents over the time. At present these documents are of great importance to the researchers and scholars. The library is proud of this Valuable collection and at the same time it is a challenge to the authority to preserve and maintain these properly.

Old and rare collection : The library preserves and maintains old and rare books separately for the learners and researchers. To name a few rare documents besides thousands of old books in different subjects are:

- Ackermann's Cambridge (1815) in two volumes with beautiful aquatint etching,
- Thornton's Elementary Botanical Plates (1810) with magnificent steel engravings,
- 'Illustrated London News' from 1842 to 1850,
- A set of the Philosophical Transactions of the Royal Society from 1665 to 1800,
- Akbarname translated by Revereje,
- Edinburg Review,
- Letters received by the East India Company,
- Gulistan,
- Euclid in Arabic,
- The Shah Nauru,
- Illustrated Family Bible,
- Chahar Gulzar,
- First Annual Report of the College of Mohammad Mohsin,
- Many first edition books of Rabindranath Tagore, Bankim Chandra Chottopadhyay, Sarat Chandra Chottopadhyay, Haraprasad Shastri, Nagendranath Basu and others

INITIATIVE OF DIGITIZATION UNDER D L I PROJECT :

Digital libraries are real value additions for traditional library services. At the initial stages (early 1990s) digital library projects were started by universities and museums in USA and UK to digitize selected rare and special collections. Within a few years, however, as the fundamental technologies of digitization became more mature and better understood, commercial database vendors came into the market with host of e-journals, e-books and multimedia information resources. Currently hundreds of libraries are involved in Digital Library Projects world wide.

Keeping pace with this advancement of Information and Communication Technology (ICT) the Indian libraries are also building digital libraries for better access to information. Initiatives have been taken by the government and private agencies at various levels One of Such national level mega project is 'Digital Library of India' (DLI) as a part of an International initiative, Universal Digital Library (UDL). The Digital Library of India project was initiated in the year 2002, sponsored by Department of Information Technology, Ministry of Communication & Information Technology, Government of India. The target is to digitize all the Heritage & Cultural Documents and Books of mankind and to make a Portal, so that it can be made freely available, in every corner of the world, for our education, study, and appreciation and that of all our future generations. This portal will also become an aggregator of all the knowledge and digital contents created by other digital library initiatives in India. The result will be a unique resource accessible to anyone in the world 24x7, without regard to socioeconomic background or nationality.

Under this project the scanning operations and preservation of digital data take place at different Regional Mega Scanning Centers (RMSC) across India. The RMSCs themselves function as individual organizations with scanning units established at several locations in the region. Responsibilities of a RMSC include regulating the processes of procuring or collecting the books, distributing across scanning locations maintained by it, gathering back the digitized content from the contractors operating at those locations and hosting the same. C-DAC. Kolkata is working in the Eastern Part of India as Regional Mega Scanning Center (RMSC). The Center for Development of Advanced Computing (C-DAC) is all R&D organization under the Ministry of Communication & Information Technology, Government or India.

With the kind permission of the Directorate of Public Instructions, Government of West Bengal, Hooghly Mohsin College Library has been participated in this noble initiative. And this college is the only government college in West Bengal has been participated in the project with its treasury of old and rare collection under direct supervision of C-DAC, Kolkata.

STEPS OF DIGITIZATION :

Digitization of documents is a complex and long process This process can be divided into the following six phases:

- Metadata Entry
- Scanning Process
- Cropping Process
- Cleaning & Resizing Process
- OCRing Process
- Archiving into CD/DVD.

Metadata

Digitization process at DLI is metadata centric. Every book that is scanned and stored is associated with metadata for identification, search and retrieval. Identifying the metadata that should be preserved along with the digital objects is a debatable topic. At DLI project, after several discussions on the right schema for metadata of a book, the following three sub- categorizations have been accepted Three types of Metadata creation are generally followed in the digitization process, viz.

1. Regular Metadata
2. Admin Metadata
3 Structural Metadata

Regular Metadata has to be prepared before the scanning process and the other two are to be prepared after the scanning process.

Regular Metadata information is created for all the Documents (books, periodicals, manuscripts, etc.) available for scanning. It contains information about the book like title, author, date of publication, publisher, ISBN, keywords, subject, language etc. The widely understood and accepted Dublin core format with a few extra fields like edition information of the book etc. is followed. This metadata primarily helps us to identify, categorize and retrieve the book. Regular Metadata is normally stored in the Database as .xml format for further searching of the resources on the Web.

Each digital book object contains all three forms of metadata. Regular metadata is entered by source librarians or the contractor hired librarians before digitization begins. Admin metadata is gathered at the contractor end during the process of digitization. Structural metadata is manually entered by the contractor and also automatically detected by learning techniques, although the heterogeneity of the structure of pages in a book prevents complete automated detection.

The digitization of a book starts with an expert librarian entering the regular metadata for the books that need to be scanned. The metadata is first uploaded onto the DLI portal hosted at the RMSC for checking of possible duplicates from elsewhere at other scanning locations. However, due to a continuous flow of books from libraries all over India, a significant overlap is expected not only between scanning locations but also across RMSCs. Hence the uploaded metadata has to be synchronized with the other RMSC databases and then duplicates are detected in the uploaded metadata. This ensures prevention of duplicates in the system assuming the metadata is legitimate.

After the entire Image-Processing, it needs to prepare the other two types of Metadata.

Admin Metadata is used for administrative purpose. Administrative details of the book, like the location of scanning of a book, the source of the book, details of scanning of book etc may not be of interest to the book readers but are useful to the operational organization. It can be used to trace the progress of the project, generate reports and identify bottlenecks in scanning process etc. The necessary fields of information are Operator's Name, Scanner No, Scanning Date, Vendor Name, Scan Center Name, Digital Re-Publisher, Digital Publication Date, Numbered Pages, and Unnumbered pages.

Structural Metadata is used for accurate and pin-pointed information search and retrieval from the Full-Text Database. Structural metadata contains information pertaining to each page like the size of each page, whether the page is blank, or has an important context attached to it like the beginning of chapter, end of chapter, index, preface, table of contents etc. Such information enables the system to improve the navigation of the end user through the book and also improve search and retrieval techniques.

Scanning Process

Two Zeutschel OS 5000 Scanners are used to scan documents. Due to ageing of the documents, the physical quality of the paper is being transformed into yellowish or brownish in color and also become brittle in nature. In earlier days, old books and documents are preserved by laminating the pages with tissue papers on both sides for lasting. To digitize such type of documents, there are a few parameters of scanning process like aperture, brightness and threshold, should be kept in mind during the scanning process. Otherwise, the scanned image will be either darker or lighter, which is not acceptable quality of scanned document. The most popular document imaging software like: OmniDoc ver; Data Scan; Omni Scan are used for this purpose.Typical examples for Zeutschel OS 5000 Scanner to illustrate how to set the values of parameters for different qualities of papers are given below.

Quality of paper	Aperture	Brightness	Threshold
Normal paper	8–11	5–6	75–90
Laminated with tissue paper	5.6–8	3–5	100–125
Brownish or Yellowish paper	4–5.6	6–8	90–100

The scanned images are then saved in TIFF format with a resolution of 600 dpi. The text content is scanned in Black & White (I bit) mode while the images are saved in gray scales (8 bit) mode for best reproduction in digital library work

Cropping process

The scanned images are needed to crop for further processing. There are two useful tools for cropping of the scanned images.

- ABBYY Fine Reader
- Image Cropper

Cropping can be done in an automatic batch process or manually one after another.

Application of ABBYY Fine Reader
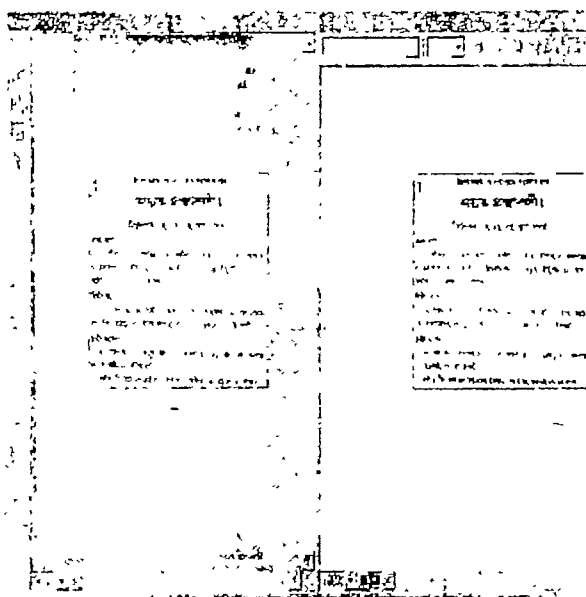
The block generated automatically according to the area of the content

Application of Image Cropper
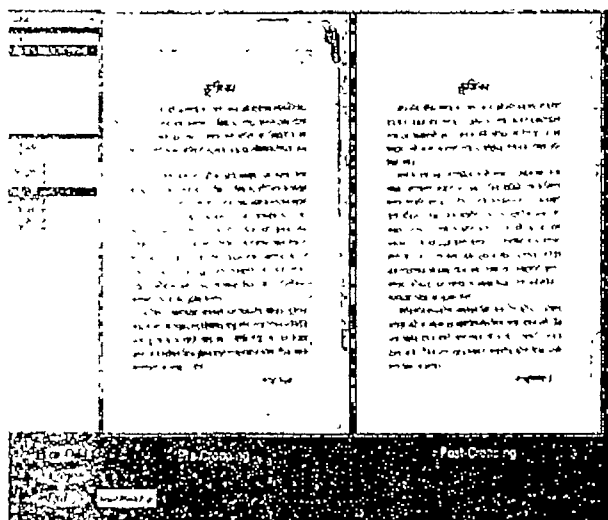
The block is to be drawn manually according to the area of the content.

Cleaning and resizing process

The cropped images are to be cleaned and resized for better reproduction to the end users. A popular tool used for cleaning and resizing of the images is, 'ScanFix 4.21'. There are a few parameters for smooth operation of this tool. The most commonly used parameters are:

- De-Skew
- Noise Removal
- Resize
- Smoothing & Completion
- Intelligent Crop
- Manual crop & pad
- String Options.

These parameters are to be set with some standard / appropriate value according to the requirements. The Cleaning & Resizing process can also be done with the help of Batch process utility. It saves the images with source file name in the user defined target directory automatically. This tool makes the operation faster by processing and saving automatically for all the images of a document applying all the parameters specified by the user. During this process some documents may be hampered from the content point of view due to the wrong parameters setting like Noise Removal, Intelligent Crop and Smoothing, & Completion, care should be taken, so that, the value of the parameters should not cross the maximum limit.

Use of Scanfix 4.21
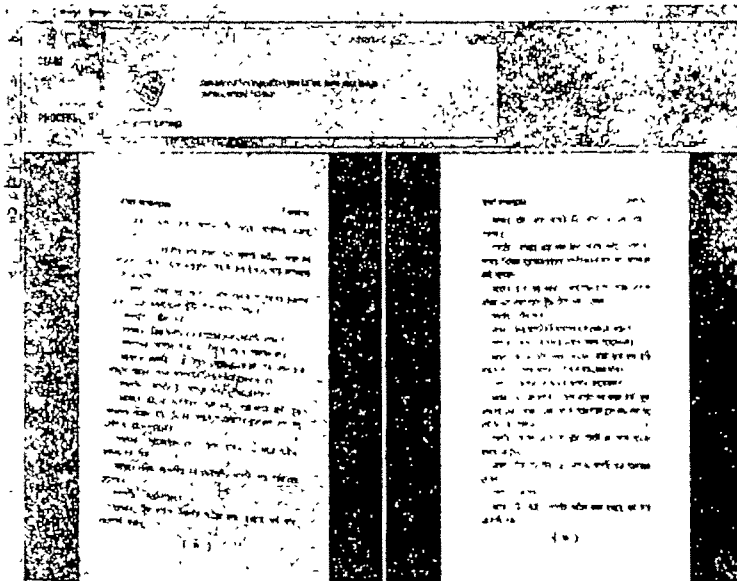
A typical skewed and noisy image cleaned & resized using *ScanFix 4.21.*

OCRing process

A scanned document is nothing more than a picture of a printed page. It can not be edited or manipulated or managed, based on their contents. OCR software is used to transform scanned textual page images into word processing file. OCR is performed in order to make every word in a scanned document readable and fully searchable without having to key-in everything in the computer manually. Once a bit-mapped page image has gone through the process of OCR-ing, a document can be manipulated and managed by its contents, i.e. using the keywords available in the text. Most document imaging software have OCR package in-built. However, OCR packages are also available as separate utilities.

Some of the important OCR packages are:

*   Text Bridge
*   OmniPage
*   ABBYY Fine Reader

Archiving Into CD/DVD

After completion of the above noted processes digitized documents are saved in CD/DVD and send for uploading and archiving.

STATUS REPORT OF DIGITIZATION IN HOOGHLY MOHSIN COLLEGE LIBRARY

No. of Pages Digitized: 7,69,798

Digitized of Books: 1612

Total No. of DVDs : 48

Period covered for foreign language up to 1923

Period covered for Indian language up to 1946.

Table showing the digitized books in the library

Sl. No.	Language of Books	Period Covered	Number of Books	Number of Pages
1.	English	1810-1923	1247	5,94,080
2.	Bengali	1760-1946	240	1,13,612
3.	Sanskrit	1850-1946	59	31,509
4.	Others (Urdu, Arabic & Mixed)	1750-1946	66	30,597

PROBLEMS FACED

Digitization under D L I project is not hassle free and smooth enough. It also faces some and external problems. Those can be mentioned in brief as follows:

- Re-allotment of contracts to commercial vendors creates problems to participating institutions regarding quality of services;
- Restoration of original documents after scanning and mishandling;
- Lack of fund, infrastructure and technical expertise to develop and maintain own institutional digital repository;
- Participation and ultimate uploading of digitized materials is a time consuming long process due to centralised management of D L I project.

It also can be mentioned here that sensitive and caring attitude of D L I authorities and participating institution can easily solve these problems.

CONCLUSIONS

Most of the copyright free rare books are digitized and archived in DVD form. This is the first step to develop a digital library and institutional digital repository of Hooghly Mohsin College Library. Computerisation of library activities and ongoing retro-conversion project are expected to be completed soon. All the digitized documents will be available online from DLI portal *(www.new. dli.ernet.in)* and also from our own website *(www.hooghlymohsincollege.org)* in near future. Campus networking is also under process for access through intranet. We are looking forward to meet the long standing demand of our esteemed users for accessing the golden treasury of library collection 'any where –any time'.

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RSS FEED AND ITS APPLICATION IN LIBRARY AND INFORMATION SERVICES

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Abstract: This article highlights on concept, history, structure, identification, supporting elements, method of subscription, users of RSS feed and how it will be applicable in library. In this age of information explosion where the amount of information keeps multiplying exponentially, this article will be helpful for those who are trying to keep themselves abreast of new developments and changes helping in dissemination of information.

Keywords: RSS feed, Syndication, Newsreader, Icon, Website, Current Information.

1. INTRODUCTION

The abbreviation **'RSS'** stands for "Really Simple Syndication". It can also stand for "Rich Site Summary" or "RDF Site Summary". "Really Simple Syndication" is the default expansion of RSS nowadays.

RSS is a format for easy distribution of list of headlines, update notices, and sometimes content to wide number of people. When it distributes the content it is called a feed. One can think of RSS as his/her own personal wire service. It is the format used when one wants to syndicate news and other web content

Syndication: One party creates the content and it is published in many places. Examples:

A producer creates a film and it is shown by many theatres. A photographer does video of any incident and it is shared by many electronic news channels.

The benefit of syndication is that one can get a much wider audience for his/her content. On the web he/she creates content for his/her website or newsletter and with an RSS feed he/she can syndicate it to news aggregator websites or other sites that publish similar content

RSS Feeds are excellent delivery vehicle for news content. "Even if it is something as simple as putting your press release in an RSS feed, marketers will benefit from early exposure to distributing information via RSS feeds." Forrester Research

However, a web feed can be used for pretty much any content on one's website or blog. They are

- Recent changes on a page of a website
- Technology support updates
- Product news

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* Librarian and also ex-student, DLIS, CU.

- Announcements

- New listings for a realtor

- Job vacancies

The list is almost endless. Every business has several types of content they can put it in an RSS feed.

2. HISTORY

RSS was first created by Netscape in 1999. The first version is 0.90. It is followed by 0.91 version by Useland Company in 2000 stands for 'Really Simple Syndication'. In 2000 version 1.0 based on RDF was also created by O'Reilley and further maintained by RDF Site Summary. RSS 2.0 was defined by Dave Winer at Harvard University.

History buffs might be interested that there's been some rivalry over who invented RSS. This is why we have both different names and indeed different 'flavours' or versions of RSS. Mark Pilgrims written an excellent article 'What is RSS' that charts the different versions with recommendations on which to use.

3. STRUCTURE OF RSS FEED

RSS feed is made up of a list of items presented in order from newest to oldest. Each item usually consists of a simple title describing the item along with a more complete description and a link to a webpage with the actual information being described. When a feed includes only a headline and a short summary of the content it is called a partial feed and when it provides a link back to the place on the website where the content resides for full information it is called full feed.

<Title> Securing the home front against terror

<Description> Wanted. A single, unified internal security set up to guard India against terror strikes. Editor-in-Chief on the fight against...

<Link>http://indiatoday.digitaltoday.in/index php?option=com_content& task=view&id=24781&issueid=88

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4. WHAT CAN A WEB FEED DO?

4.1 For the Content Recipient:

The internet has provided us with access to information at the touch of a key board. However, it is an explosion of information. Feeds make it simple to handle this flow of information. Feed can keep us updated.

It allows us to easily stay informed by retrieving the latest content right away from the sites we are interested in. We can save time by not needing to visit each site individually. We can set up our preferences once and the content comes to our desktop. Subscription is anonymous. Subscriber do not

have to give out his/her email address. Feeds allow us to read content updates in our reader.

4.2 For a Website Publisher/Company

In the 21st century internet has become chief source of finding any sort of information in the 18-56 year old age group. For a website publisher/company it has been very important to draw the attention of those net savvy users to its website. There are so many sources of information that as publisher/company's visitors, and the journalists who cover that industry, won't come to its site everyday. But if the company offers an RSS feed of its news it pops right into their reader. Company's feed could get picked up on multiple sites and come to the attention of journalists when they do an initial search. If they are already feed savvy and they use a reader to do their online research, company's news feed can be right on their desktop
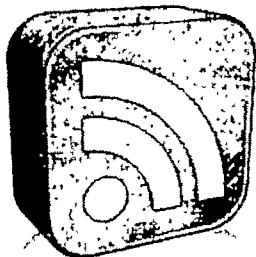
5. IDENTIFICATION OF RSS FEED OF A WEBSITE

It is getting more and more common for website to have RSS feeds. They usually indicate the existence of the feed on the homepage or main page with a link to "RSS", or sometimes by displaying an orange button with the letters "XML" or "RSS". RSS feeds are also often found via a "Syndicate this" link. Text "RSS" links sometimes (there are lots of variations) point to a web page explaining the nature of the RSS feeds provided and how to find them. The buttons are often linked directly to the mainstream sites are incorporating feed readers. We will also see this kind of button on sites:

Add to my Yahoo: +My Yahoo

Add to my MSN: My MSN.

6. HOW DO PEOPLE READ FEEDS?

To receive an RSS feed, we need a newsreader – or content aggregator. There are web based readers like Bloglines and My Yahoo. There are also downloadable newsreaders we can install on our desktop like PRESSfeed reader. Others, like NewsGator, have both free and paid services.

Newsreaders offer a variety of special features, including combining several related feeds into a single view, hiding items that the viewer has already seen, and categorizing feeds and items.

Once we set up our reader with our preferences, it will collect the feeds we are interested in every time there is an update.

7. METHOD OF SUBSCRIBING A FEED

There is no agreed-upon standard for how to subscribe to an RSS feed, although some developers are working on this. One of easiest methods is to enter the URL of the RSS feed into the user's acquired reader.

The steps are as follows:

- Go to the web feed you want to subscribe to.
- Right click the RSS or feed icon
- Select "copy shortcut" or "Copy Link Location" to copy the address or location (URL) of this feed.
- Go to your reader. (In the prescribed reader it is the first icon on the top left of the tool bar)
- Click the icon. It should bring up a window with a field to add the URL of the feed you want to subscribe to
- Place your cursor in this field.
- Right click your mouse and click paste. The URL of the feed will appear in the field. It will either ask you to click 'next' or 'add' content.

In the PRESS feed reader it will also offer us a choice of folders in which to place this feed. The folder appropriate for this feed has to be highlighted At the end the 'finish' option has to be clicked.

7.1 Creation of Feed Reader 2.90 : An Experiment

For the creation of Feedreader on the PC first the newsreader Pressfeed reader was freely downloaded from www.press-feed.com/howitworksrss_tutorial.php. After the complete installation of the Pressfeed reader a second 3 dimensional square shaped icon appeared on the screen. As soon as the newsreader activated (for this constant internet connection is required) the second icon also appeared at the bottom right hand corner of the screen.

Some of the news items were added automatically with Feedreader (shown in the snapshot of **Feedreader 2.90**). They are—

- Smart views
- Unread headlines
- Today's headlines
- My feeds

Business
- Business Online-Top News
- wsj.com:Markets
- wsj.com:US Business
- Business Week Online–Investing

Cars
- Autoblog

Entertainment
- ABC News Entertainment
- Movies.com New Movie Reviews
- Yahoo! News:Entertainment
- Cinematical

News

- BBC News| News Font Page| UK Edition
- ABC News International
- Guardian Unlimited
- NYT> Home Page
- Reuters: Top News
- Yahoo! News: Top stories

Technology

- Business Week Online – Technology
- Engadget
- Slashdot
- Wsj.com: Personal Technology

Travel

- Gadling

Following the method as mentioned in **'7. Method of Subscribing a Feed'** the RSS feeds of the following websites have been added to the news reader. They are :

- Library of Congress Classification Weekly Lists
- Library of Congress : Subject Headings Weekly Lists
- (Library of Congress)Collection Preservation
- Wiley: All New Medicine, Nursing & Dentistry Titles
- India Today | latest News
- India Today | Nation
- India Today | Sport
- Journal of Documentation
- Journal of American Society of Information Science and Technology
- Aslib Proceedings
- IFLA Journal current issue
- IFLA Journal recent issues
- : Most-Read Full-Text Articles
- : Most-Cited Full-Text Articles
- Quintessence Publishing Updates
- Library Connect News (Elsevier)
- NDTV News—Top Stories
- NDTV News—India
- NDTV News—World

The latest updates of these websites will appear at the bottom right hand corner of the screen automatically as soon as the internet is connected. The latest

updates of any particular website of choice can also be seen which is already added in the newsreader. For this purpose the newsreader has to be opened by double clicking on the second icon of newsreader. Then one has to click on the particular folder he/she wants to see as shown in the snap shot of **News reader 2.90**. For example, one wants to see the table of contents from the most recently published issues of **Aslib Proceedings**. For that he/she has to click on Aslib Proceedings and the right side box would show the content.

SNAP SHOT OF FEEDREADER 2.90
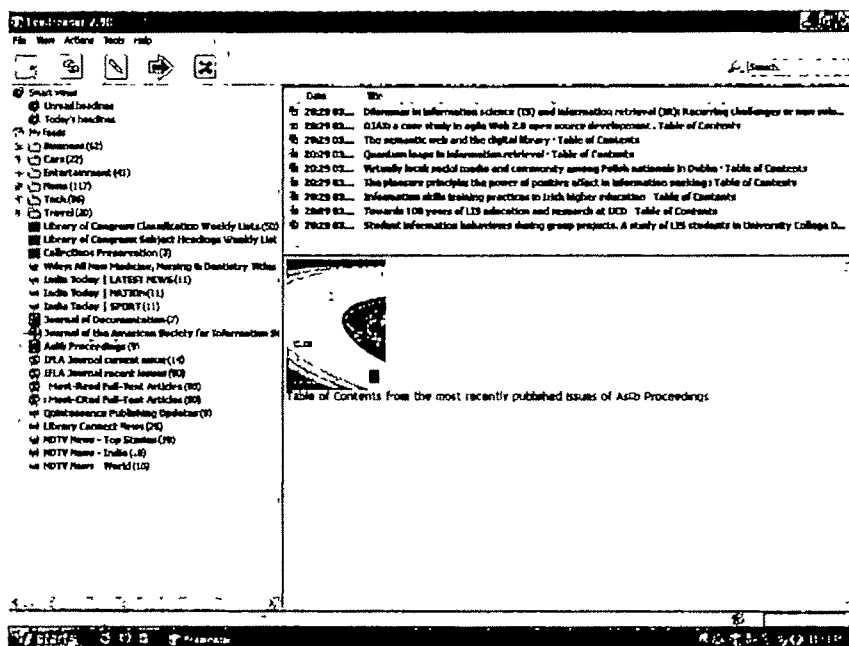
8. USERS OF RSS FEEDS

The use of RSS in websites is becoming more common. In the beginning it was only the very tech savvy people who were reading feeds.

However in the last year there have been other indications that feed are gaining popularity fast. Mainstream media sites are providing feeds and report that these subscriptions are booming. The NYTimes.com and USA Today.com report that they see double digit increases in their feed subscriptions month over month. The BBC says their increase is 30% each month.

8.1 RSS Feed and Librarian

Over the past few years, the amount of information available via the web has multiplied exponentially. Still, it is in the best interest to the users librarians serve (whether they are faculties, students, other professionals, or the public) to keep abreast of new developments in databases, search engines, new sites, changes in sites, and information that effect their careers and the way they deliver information to their constituencies.

In order to keep current, librarians may have to visit lot of websites daily which is really a painstaking job. Of course there would be days go that visiting each site would not be possible And if some days go by without reading these favourites, librarians may get too bogged down trying to catch up. But if the librarians introduce themselves to the wonderful world of RSS feeds, it will be easier to remain updated. Through RSS feed librarians can get almost all of the content they want from all of these sites delivered to one place as soon as the site is updated, saving precious time. The most amazing part is notified when any of the sites is subscribed to is updated within minutes. And for this librarians do not have to be an experienced techie to set-it-up.

8.2 Libraries and RSS

Libraries are ideal candidates for adopting and using RSS to their advantage as

- Information Producers
- Information Gateways
- Information Consumers

8.2.1 Libraries as Information Producers

As information producers, libraries maintain their websites providing information about the services, new addition, announcements and other many information tools like OPAC. Libraries can·

- Create an RSS feed for new additions to the online catalogue.
- Create an RSS feed tied to a library card account for hold notifications and/or overdue materials.
- Create an RSS feed for new programmes and events posted on the library website
- Create an RSS feed for the library's electronic newsletter.
- Create an RSS feed for press releases and other advisories.
- Create an RSS feed for library closings, including emergency closings.
- Create an RSS feed for library job openings.

8.2.2 Libraries as Information Gateways

As a gateway to information libraries can:

- Subscribe to few RSS feeds, such as local news websites, and share the content on the library's website.
- Subscribe and share RSS feeds of interest to library users.
- Compile list of useful RSS feeds with suitable annotation to help users to pick up feeds of their interest

8.2.3 Libraries as Information Consumers

Libraries as consumer can subscribe to a few professional RSS feeds and share with library staff on the library intranet.

8.3 SCREEN SHOTS OF SOME LIBRARY FEEDS

8.3.1 RSS Feed of Library of Congress
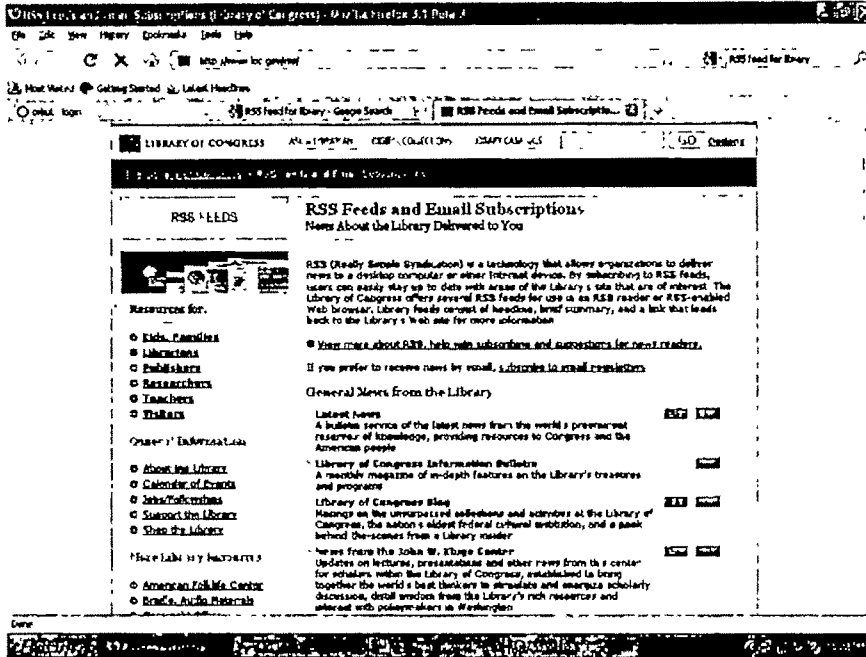
8.3.2 RSS Feed of State Library of Victoria
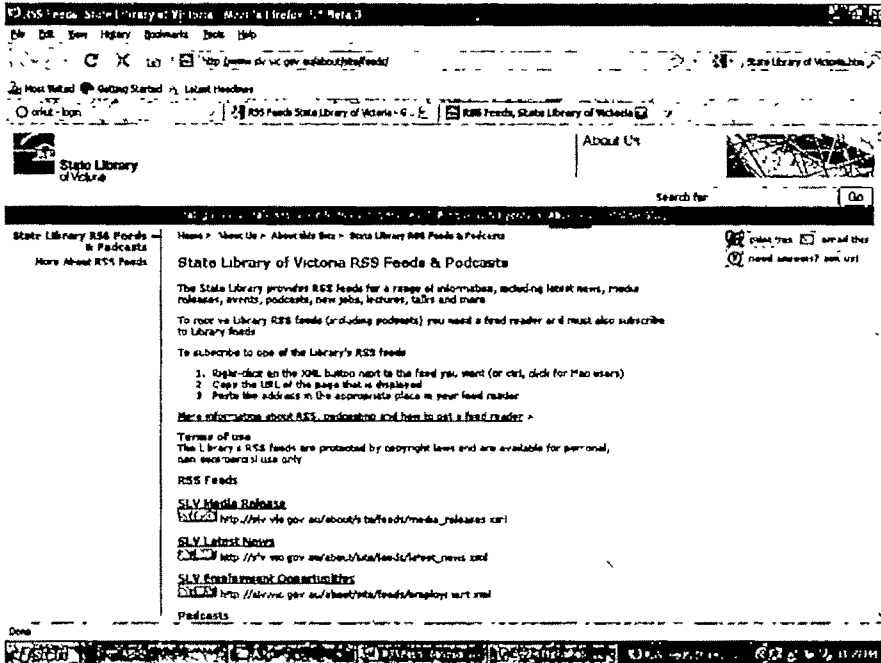
8.4 CONCLUSION

"The most compelling use of RSS is that it lets users read dozens of websites, all on the same page. The sites can be scanned in seconds rather than having to be laboriously loaded individually." BBC Magazine.

RSS feeds are providing a new mechanism for current awareness and professional development. Librarians can use RSS feed to keep themselves up-to-date in this era of information expansion. Creating RSS feed for several functions and programmes of library on the library's website will help to draw the attention as well as interest of its users. The challenge for librarians is to become familiar with the RSS feed and its potential and more innovative application in the field of Library and Information services.

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INFORMATION LITERACY IN HIGHER EDUCATION WITH SPECIAL REFERENCE TO THE ROLE OF COLLEGE LIBRARIES IN INDIA

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Abstract : Accessing right information in right time for right purpose is a prerequisite of success not only in education but also in life. The skill behind this is 'Information literacy'. Present paper highlights its importance in higher education and initiatives in Indian context including views of National Knowledge Commission. Role of libraries in this regard are critically analysed to formulate specific modules for information literacy programme.

Keywords : Information Literacy, National Knowledge Commission, NISCAIR, UGC-INFONET, College Libraries.

INTRODUCTION

World is facing a challenge of rapid change in accessing information, a valuable commodity in every stages of life. Presently, we are moving in 21st century at the fastest speed with accessing gigabytes of information in pico-seconds and demanding more. During the last two decades, the information environment is greatly changing throughout the world for the exponential growth of information.

From the first breath, we start the journey of learning. With the rapid development of information and communication technologies, the scope and coverage of information used in the learning process, has become enormous. It is a major challenge for all levels of students, to utilize the information effectively. As a result, it is necessary to develop the skills to use the information in a proper way. This type of learning outcomes is currently referred to as 'information literacy'. In other words, information literacy is the ability to access, organize and use information in order to learn, problem-solve and make decisions—in formal and informal learning contexts, at work, at home and in educational settings.

American Library Association defines information literacy as a set of abilities requiring individuals to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information". [1].

An information literate person is one who:

- recognizes that accurate and complete information, which is the basis for intelligent decision making,
- recognizes the need for information,
- formulates questions based on information needs,
- identifies potential sources of information, $GS\ 5882$
- develops successful search strategies,
- accesses sources of information including computer-based and other technologies,

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** Librarian

- evaluates information,
- organizes information for practical applications,
- integrates new information into an existing body of existing knowledge, and
- uses information in critical thinking and problem solving.

NATIONAL KNOWLEDGE COMMISSION AND INFORMATION LITERACY

In this context, National Knowledge Commission of India, established by the Government of India in 2005, has identified different phases of life cycle based on a person's entire life span, from the birth to post work age. He/She needs different kinds of information in different phases of life. The young persons are acquiring knowledge through secondary and higher education. Here, the teachers and library professionals impart the information literacy competency to the learners through information literacy programmes Information literacy is a lifelong process that starts at the youth age and may go until post work age Information literacy also has a component of lifelong learning. Information literate persons acquire knowledge; then use knowledge resources to generate wealth and welfare. In post work life, persons share wisdom and experiences with the younger generations. Here also information literacy plays its role to absorb the knowledge from experienced persons to and use the same knowledge in generating wealth and welfare of the society. This is also another cycle of knowledge creation, dissemination and utilization The knowledge life cycle relating to information literacy, based on a person's entire life period, is depicted in Figure 1.
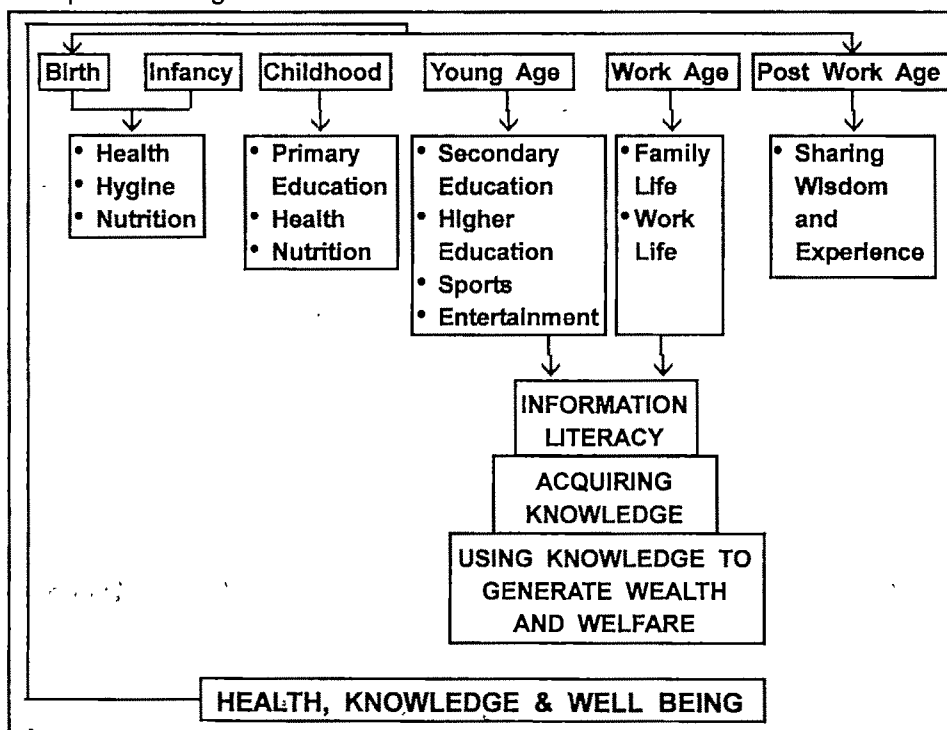
Fig - 1 [Adapted, (8)]

NEED OF INFORMATION LITERACY PRORCMME IN A COLLEGE

One passes his/her young age of his/her life in acquiring higher education It is most important phase of any student's career Information literacy enables a student to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information. Now, the mostly used information 'source' is internet and simultaneously, information 'garbage' is also a major problem for all categories of users—like students, teaching and non-teaching staff. But, at the time of `information explosion', too much information can create a barrier in the total education process. This 'data smog' is produced by the amount of information, the speed at which it comes to us from all directions, the need to make fast decisions, and the feeling of anxiety that we are making decisions without having all the information that is available or that we need. 'Information literacy' is the solution to 'data smog'. It enables one to overcome such situation efficiently.

In India, most of the students earn their university degree without receiving any formal information literacy training. When they finish their university education and enter the modern world of work, where information and knowledge play a great role, they fail to sell themselves in the global job market The lack of information literacy is a serious problem. India needs today a strong movement of information literacy.

There should be well-developed library and information systems and networks. Colleges and universities should understand the importance of information literacy and life-long learning skills and educate their students accordingly

OBJECTIVES OF INFORMATION LITERACY PROGRAMMES

Major objectives of information literacy programme in a higher learning institution may be as follows : [13]

- Learners would be able to develop a systematic method of searching for information related to areas of studies of the users;
- They would be aware of wide range of sources (including open access sources) available for finding information and select the sources which will best meet users' needs;
- They would be aware of appropriate indexing and abstracting services and databases and understand the principles of their use;
- They would develop database searching techniques for accessing both web-based and other non-print databases;
- They would be able to use current awareness methods to keep up-to-date with the published literature;
- They would be able to use national and international academic networks for getting information;
- They would be able to use discussion forums, list servers, online chat-services and blocks for obtaining and disseminating information,

- They would be able to use local library network for obtaining documents through inter-library loan and document delivery services;
- They would be able to compare and critically evaluate information obtained from various sources;
- They would be able to cite bibliographic references in their academic projects, papers, articles, reports or theses; and
- They would be able to construct a personal bibliographic system.

ROLE OF COLLEGE LIBRARIES AND LIBRARIANS IN INFORMATION LITERACY:

The mission of a college is to develop the overall personality and thinking power of the students to help them to become more responsible citizen for the development of the nation. The library, an academic division within a college, is responsive to students, faculty members and other staff to satisfy their research needs, instructional needs and information needs by giving proper guidance. The ultimate goal of the library is to have efficient utility of the library resources. The information literacy program is an intellectual framework for understanding, locating, evaluating and using information, which is essential in the contemporary environment of rapid technological change and proliferation of information sources.

At the present day, the teaching—learning process is shifted from text-based learning to resource—based learning. For this, the demand for varieties of library materials including print, non-print and internet resources are increasing. College librarians play an important role to make all categories of users aware of the newly evolving technologies and resources for the use of information. They can design an information literacy curriculum, which matches student capabilities and requirements. They act as leaders in new information technologies as well as extended resources across the disciplines.

To make information literacy programme effective, a concrete information literacy plan is necessary. The information literacy plan is a living document that will be reviewed on a regular basis. Faculty plays an essential role in collaborating with librarians to deliver information literacy competencies to students. Through this collaboration, librarians integrate information literacy into the curriculum in a programmatic way. The librarian should organize the following program.

- New faculty orientation to introduce the library's information literacy program.
- Workshops for all faculties to introduce new library materials and services.
- Consultations with other teaching faculties to develop models of collaborative instruction where information literacy skills can be built into the curriculum.
- Promote currently existing library services and expertise to facilitate the research process

At the beginning of the session, librarians should organize an orientation program, which includes course-related instruction services and they should take part in the passive teaching including—methods of research, sources of information and evaluation of information. Course-related instruction means— electronic database demonstrations with time for hands-on practice, how to choose and use electronic/print periodical indexes, instruction in general and subject—specific reference materials. Following modules may be designed to create an effective information literacy module for a college library.

Module 1 : Searching information through searching tools like catalogue and indexes applying keywords, concepts, Boolean logic etc.

Module 2 . Locating information from books and various documents with the help of online catalogue.

Module 3 : Finding articles from periodicals for efficient retrieval of contents.

Module 4 : Finding websites for latest information.

Module 5 : Obtaining materials by inter-library loan or enjoying inter-institutional membership facility for required information.

Module 6 : Citation and plagiarism.

Module 7 : Evaluation of sources (print source as well as on the web) applying evaluation criteria.

Module 8 . Virtual library tour (by which entire layout of the library could be made available for the users online). (5)

INFORMATION LITERACY: INDIAN SCENARIO

Information literacy is a key component of, and contributor to lifelong learning. Since higher education institutions vary widely in mission and student body, information literacy programmes are designed and tailored to meet specific needs of the users.

Keeping in view the present scenario of educational system and financial crunch in higher education environment in our country, it is felt that the prominence should be given to information literacy in higher education system. Introducing Electronic information literacy program in an academic setting is an institutional issue for the higher learning bodies as well as the library. In India, University Grants Commission (UGC) has taken sincere efforts to bring a boost in the higher education system by introducing UGC-INFONET E-Journals Consortium project. Information and Library Network (INFLIBNET) which is the co-coordinating agency for UGC-INFONET Project is conducting various training programmes, user awareness programmes, workshops and seminars to research scholars, faculty members and library staff from universities and colleges across the country, on how to access these abundant resources offered by the UGC. INFLIBNET is also responsible for providing training to university library professionals in the use of this network for providing a variety of services to the users. Like:

- Computer application to library and information services – a four-week intensive training programme focusing on the practical aspects in the use of computers in libraries.
- Workshop on Automation and Networking of University libraries, which covers the implementation of INFLIBNET in university libraries.
- Onsite training in various topics.
- Training in library management systems for university library staff.

There are several institutions that run continuing professional development courses and programmes for library and information professionals in India. National Institute of Science Communication and Information Resources (NISCAIR), Professional bodies, such as the Indian Library Association (ILA), the Indian Association of Special Libraries and Information Centres (IASLIC) and the Society for Information Science (SIS), are also involved in continuing professional development in this area. Different universities and colleges are also organizing training programmes, workshops and seminars with hands-on experience for all users on information literacy activities.

PROBLEMS IN INDIA

In developing countries like India, the implementation of information literacy programme faces the following barriers–

- Lack of cooperation among professional organizations and lack of well articulated and/or promoted information literacy policies and programs.
- Underdeveloped library and information systems and networks.
- Expensive telecommunication infrastructure services.
- The users are not so well acquainted with the nature of information and its creation and also the pattern of flow of information within a discipline, that is, without the mental map of information and publication world

CONCLUSIONS

Information literacy program is a collaborative work. A close collaboration of teachers, librarians, IT—experts and administrators is required. Librarians need to be more pro-active to deliver information literacy instructions. Now, knowledge management environment needs excellent information management. To co-evolve the librarianship with the new technology system, it requires to some extent the transformational librarianship. To minimize the expense and maximize the output, managerial skills are must to library professionals. In the environment of advanced technological information management tool and highly flexible/ sophisticated manpower, some soft skills are to be needed to handle them accordingly. The society has shifted from an economy based on capital goods (industrial) to an economy based on services (information), there has been a corresponding shift in what is expected from the education. There is a clear need for discussion of information literacy in higher education system. To lead a successful life, it is inevitable for the students to be information competent.

Therefore, it is one of the urgent tasks of the educational institutions to help the students to develop the competency and become information wise citizens of information and technology society.

Apart from the skills of reading and writing, the students of 21s' century need more complex and analytical skills. The technological tools of information age—computer networks, telecommunication system, digital information resources and databases have put an unprecedented volume of information at his/her fingertips. Therefore, it is necessary to teach the students to acquaint with what is available, when to use it and how to find it. Information literacy is one of such potential tool that empowers all learners. Information is the lifeblood of democracy and it is considered as the vital source of power. But, the real information power lies in having the right information at the right time for the right purpose For that information literacy is an indispensable device to learners of 21St century.

To conclude, Information literacy is a tool for acquiring knowledge and it is imperative for every person to be able to use this tool effectively. Even a compulsory/optional course on 'Information literacy' at the degree level to sharpen the knowledge acquiring skill of students may be considered by our educationists. National bodies along with most of the Indian universities are marching forward to that goal. A few colleges are also working in the same mission. International communities, like, UNESCO, IFLA, American Library Association, have already prepared information literacy standards for the various levels of information users. These information literacy standards can be adapted here for creating a knowledge society, where knowledge utilization and knowledge creation capabilities are the driving force in economic and social development. We are looking at that transformed society.

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INFORMATION MANAGEMENT IN WEST BENGAL STATE ARCHIVES

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Abstract : Information management is important for any organization, specially in information centres like, Archives, museums, libraries, etc. It helps to provide right information to the right user at the right time The paper has been prepared to reveal the importance of Archive in a society through the study of West Bengal State Archives. It tried to show the types of information it acquires and techniques to disseminate for the development of the society.

Keywords : Information Management; State Archives; West Bengal.

1. INTRODUCTION

Information resources are the backbone of any library or information centres, and their efficient management is its goal. Efficient management of information resources involves timely collection of information resources for present and anticipated future use and their effective organization for speedy and pin-pointed retrieval. This requires a good amount of planning and support in terms of finance, manpower and technology.

Information management (IM) is the collection and management of information from one or more sources and the distribution of that information to one or more audiences. Management means the organization of and control over the structure, processing and delivery of information. Therefore it helps in meeting the objectives of all information centres.

Therefore, to satisfy the needs of the society there are many information centres, which from time to time help the user groups to cope with the growing needs of information. These information centres are Libraries, Museums, Archives, Cultural organizations, etc.

Archives are the most important information centres in a society from the point of view of social developments. Archives can be defined in as a repository, holding documents or other material of rare value. It is also referred as Special Collection.

In archives

The archives and records form an essential and significant part of a nation's information resources, and that programmes for their management and use are, or should be, an integral part of the national information system. The archives and record services deal with information bearing materials generated within the administrative systems of important organizations (whether

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government or private institutions or organization), while on the whole, library and document services deal with information bearing materials bought in from outside Modern records and archives services have to deal with a vast amount of materials, and have to find ways of exploiting their information contents under the constraint of a budget which never generous, has probably been subjected in recent years to new restrictions.

1.1 Objective and Purpose

This paper has been prepared with a view to unveil the following questions with productive answers pertaining to archives of Kolkata:

- The reason of existence of Archives.
- Type of documents/objects/information kept in Archive.
- The users of Archives.
- The type of user needs.
- The organization of information.
- Special aspects about managing the archieved information.
- The benefit of the users from these information centres.
- The management of information in this digital era.

This paper, tries to point out the role and application of information management in archives.

1.2 Scope and Coverage

The scope of the work is to present the different techniques of Information management in archives of Kolkata. This particular work is going to cover the State Archives of West Bengal.

West Bengal State Archive is situated at the heart of the city Kolkata at 6, Bhabani Dutta Lane, Kolkata–73. The dearth of space has forced the Archive to spread its collection in two other places. The places are—West Bengal State Archive, 43 Shakespeare Sarani, Kolkata and West Bengal State Archive, Writer's Building, Kolkata.

1.3 Methodology

The study has been divided into three phases in order to figure out clearly:

Phase I : In the first phase the information is collected through literature search on Information Management and Archives. On the basis of this, structured questionnaire has been prepared, comprising different aspects.

Phase II : The archives personnel were questioned followed by personal interaction and observation.

Phase III : All the collected data have been summarized, tabulated and analyzed.

As complimentary way to arrive archive's knowledge requirement I made a list of the questions broadly on following matter:

- The background/History
- The Collection.
- Documentation Process
- Standards
- Scientific and technological support
- Services

2. WEST BENGAL STATE ARCHIVE

The West Bengal State Archive(1962) is the oldest archive in India. At the beginning, it served as National Archive of India and afterwards when the National Archive was shifted to Delhi by East India Company, the archive at Bengal started to work as State Archive of Bengal. Now it is working under Government of West Bengal. Any researcher or scholar is able to work in this Archive with proper authenticate permission from director of Archive. The library in the Archive can be used by the staff and researcher of the Archive.

2.1 History

The present state of West Bengal originated from the partition of Bengal in August 1947, in connection with the transfer of power by the British Government to the then Government of India.

Archives administration in this state has a long history behind it. During the first two decades of the 19th century the Company's Government in India gradually came to realize that an efficient management and maintenance of their judicial and revenue records were essential for the security of their own interests and for the protection of the rights of the individuals. The Governor General in Council was instructed by the Court of Directors "to consider the expediency of establishing a General Record Office."

"Presidency Committee of Records" was constituted in May 1820 to ascertain the actual state of the revenue and judicial document and to suggest ways and means for their proper management and preservation. To assist the Presidency Records Committee in its work a Record Committee was set up in each district.

Presidency Committee worked for almost a decade and was dissolved on 1 April 1829 as a measure of economy in State expenditure. The abolition of the Committee was followed by the establishment of a General Record Office, in the General Treasury Building, consisting of the records of the different Secretariat departments.

In 1951, the control of the Record Office passed from the Home Department to the Education Department. Till the year 1962 all historical and current records of the State Government were accommodated in the Secretariat Record Room at Writer's Building. The space available there being considered

inadequate for the preservation and maintenance of records on modern lines, it was decided that better arrangement should be made for their exploitation by bonafied research workers. As a consequences, a two–storied building was acquired in 1959 – 60 at 6, Bhowani Dutta Lane, near Presidency College, and two additional stories were constructed over the existing structure. In 1962, records up to 1900 were shifted from Writer's Building to the new premises. The Secretariat Record Room was reorganized and designated State Archive.

The State Archive thus functions in two sections, Current Section at Writer's Building where the Secretariat records from 1901 onwards are being accommodated and the Historical Section at 6, Bhowani Dutta Lane, where records from the earliest times up to 1900 are housed.

At present, another section of State Archives is being maintained at 43, Shakespeare Sarani, Kolkata comprising mainly of—pictures and photos.

2.2 Type of Documents maintained by Archive

It deals with East India Company's Records from 1758 – 1858. The principal records of the East India Company's Government are -

- Proceeding Volumes

In early days, the Secretary at the end of the days meeting prepared the minutes of the proceedings containing the list of papers and orders and resolutions recorded on them in same order in which they had been considered by the Council and numbered serially. These minutes are known as body sheets. Later on the full account of the proceedings were entered in a book in the same order as in the body sheet. This book was placed before Council at the next meeting for approval and signature of members. These books came to be known as Proceedings Volumes and the original documents as Original Consultations

- The original Consultations

The original Consultations were made up into bundles and kept separately. Same order has been followed in arranging and accommodating the Proceedings Volumes and Original Consultations in this Archive

- Letters to and from the court of Directors.

The early records, preserved in this Archives, begin with the administration of the land revenue system by the East India Company. Revenue work developed territorially with the expansion of the Presidency. The regular revenue series comprising the proceeding of the Comptrolling Council of Revenue commences in the year 1771.

Between the years 1769 and 1786 there were intermediate agencies, like the Resident at the Durbar the Provincial Councils of Revenue, the Calcutta Committee of Revenue, dealing with revenue matters, their records are preserved in this Archive.

2.3 Purpose

The main objectives of East India Company for the development and establishment of this Archive are as follows:

- To centralize all the revenue and judicial records of Government of India and Bengal;

- To prepare and preserve the public records of Bengal.

At that time it was acted as Archive of India, as in 1910, it was separated and the national archive was shifted to Delhi, this became state archive with same objective. Only the records were limited to Bengal, but whatever was included in this collection, it remains. After independence, in 1962, it became identified as West Bengal State Archive and simultaneously, it has increased its scope and objective. It includes:

- To provide documentary help to research scholars;

- To meet the need of past information of Government Agency or other institutions.

- To help general person to get certified copy for electoral role.

- To help in Governmental administrative work requiring past records.

West Bengal State Archives selects only those documents for archive, which are thirty (30) years old

2.4 Settings

West Bengal State Archive is situated at the heart of the city Kolkata at 6, Bhabani Dutta Lane, Kolkata–73. The dearth of space has forced the Archive to spread its collection in two other places. The places are—West Bengal State Archive, 43 Shakespeare Sarani, Kolkata and West Bengal State Archive, Writer's Building, Kolkata.

The Archive consists of various departments which are segregated in these three places as follows:

WBSA, Bhabani Dutta Lane:

Record Room	Conservation Department	Research Section
Library	Reprography	

WBSA, Shakespeare Sarani:

Photo Section	Record Room	Photo Exhibition Gallery

WBSA; Writer's Building:

Record Room

2.5 Collection

An artificial accumulation of documents of any provenance brought together on the basis of some common characteristic, e.g., way of acquisition, subject, language, medium, type of document, name of collector, which may be treated for descriptive purposes as a unit under a common title.

The collection policy of the State Archive is to collect and archived those documents that are thirty years old. According to the aforesaid history and the growing collection after independence also, the present collection record of West Bengal State Archive shows the following:

	Address	Subject	Year	No. of Documents
WEST BENGAL STATE ARCHIVES	Bhabani Dutta Lane	Judicial and Revenue Records of Bengal	1858—1900	NA
	Shakespeare Sarani	Pictures and Photos	1906—1930	20,000
		PWD Documents	1858—1960	NA
		IB Reports	1905—1942	NA
	Writers' Building	All governmental Records	1947—Current	NA

2.6 Documentation

The State Archive is maintaining the records of Bengal Government and have documented those records. The following discussions will make clear how a record or document is being processed in archive:

i) Selection of record

Record can be Government document or agency document or private person's document.

There is a team of archivists who use to select and collect documents for Archives.

Case A: If it's a government document then, the Government will inform the archive regarding the records which it wants to store or archive. After getting written information from the Government organization through proper channel, the team will go to the required place where the records are being kept. Then the team will decide whether the particular documents are to be archived or not. The factors for selection are such as:

a) Whether the document is 30 years old or not?

b) Whether the document contains historical or administrative value?

Then after a long process of selection, the documents are being sent to Archive through proper channel i.e. according to the list made by the Archivists Team.

Case B: In case of any Agency under Government, same procedures use to undertake, as mentioned in point no. A.

Case C: In case of private person, the archival team use to take the address and other details of the particular person, like, his background or any other related documents. It is the Archival team, who needs to decide whether the papers of the person are to be kept or not.

The information about private persons is usually sent by District Office to State Archive.

Example:

In 1942, Tamluk in Midnapore District, became independent for 41 days, They wrote many papers in pencil, named "Mahabharatio Jukto Rastro" So these papers have historical value which are needed to be archived.

II) A. Accession

The accession register is a means of primary recording system. Accession is the act and procedures involved in the transfer of legal title and the taking of records or papers into the physical custody of an archival agency, records centres, or manuscript repository. An Accession is generally a set of records transferred to the Archival repository at a single instance from a single entity within the organization's hierarchy (provenance).

Similar to library, State Archive also accessioned the document before shelving them. They accession the materials under the following headings:

Sl No.	Date	Provenance	File Title	File No./ Location No.

Example:

| 01 | 12/04/1989 | Board of Trustees | Founding Documents and Histories 1967-1974 Legislative Proclamations | 1A1.1-4 |

III) Classification

For classification of documents, the Archives uses a classification system developed by State Archive—named "Principle of Provinance" It's parts are usually, like this:

Chronology ———→ Branch ———→ Department

Example:

14c20/2003

iv) Cataloguing

Archive does not have any such method of cataloguing. They usually follow guide book, or subject list or Index. User need to check the Guide Book too. Then user needs to see the index of Education for the list of documents.

v) Subject Heading

Every file or document in Archive, has subject heading. But here they do not follow any code The full name of the file is use as Subject Heading.

Example·

"Founding Documents and Histories 1967-1974 Legislative Proclamations" this is the name of the file and this is the subject heading also, which has indexed.

vi) Labelling/Marking

This method of marking should be clear, precise and easily visible to save the time of personnel's of Archive in retrieving the required document.

All the files are labeled or marked by the number, department or branch and year Just like classification number

Example: 14c20/2003

vii) Display

Presentation of exhibits or displays has become an objective of State Archive, to spread the awareness of historical data and importance of Archive among the society people.

Display is usually made by library of the Archives. The display objects are usually kept under glass cover but the documents are not original, but photo copy of original files. No original files use to keep in display.

Example:

Recently, in the month of May, the West Bengal State Archives, made a photo exhibition on Sepoy Mutiny, in Archive's premises, at 43 Shakespeare Sarani, Kolkata.

2.7 Services

Archive has increased its scopes to the people of society by providing various types of services to the scholars and other people.

a) Indexing

The West Bengal Sate Archives has no such provision of classification of documents, but they have a service of indexing to the user of Archive. They provide index on File or document titles.

Indexing forms an important part in the management of documentary information in Archive It shows the organization of records at a glance. It acts as a substitute of catalogues of documents.

b) Photocopy/CD

A photocopy is a process that makes paper copies of documents and other visual images quickly. Most current photocopiers use a technology called xerography, a dry process using heat.

The State Archives has provisioned for photocopying which is widely been used by scholars and users of Archive. It helps not only for scholar's education purpose but also for archival activities like exhibition purpose, replacement of damaged documents by duplicate copies, etc.

c) Seminars and workshops

Seminar is actually, a method of instruction in which a group of students or scholars engaged in research or advanced study meets under the guidance of one or more specialized persons for presentation and discussion of approved topics.

For example, the State Archives uses to organize seminars on Historical topics, like recently organized seminar was on Sepoy Mutiny, 1857.

On the other way, a workshop is a brief intensive interactive educational programme, generally for a small group of people, in which the content is practical and specific to the needs of the group. It has objectives and may concentrate on the acquisition of specific information or skills.

For example, State Archives provides workshop on their preservation methods to the group of students of any recognized institution.

d) Reproduction

It is not always possible to submit the original paper of the documents or a job or activity, so it is often essential to make the reproduction of them. It can be photographed, photocopied, or copied by some other way. No reproduction regardless how skillfully it is made, can be as best as the original document. Each kind of reproduction contains definite limitations in examination and findings. But it is essential to make provision of these services by the information centres.

Therefore, State Archives of West Bengal has also provides reproduction service on the demand of users i.e. scholar's demand and also for the purpose of exhibitions.

2.8 Record Management

The West Bengal State Archives has a separate Record room. Here the records of archive use to maintain according to the policies of Record Management discussed above. Here, the records of archive consists of all the paper files which are needed to create for any work or job done or will be done by State Archive.

For example : If a group of students of department of LIS, wants to visit the archive then they have to submit a letter with a list of students.

Then archive will open a file for this work and all documents relating to this group of students will be like their application, date of visit, what they visited, who are accompanied them, everything will be maintained in that file. Then this file will be classified and scheduled.

In record room the files are divided into three types:

a. Current, coded as C

b. Permanent, coded as A

c. Semi–permanent, coded as B

The semi permanent means for 5 or 12 or 25 years. It can be 3 years also.

These files consists of the records of researchers official and administrative. Even the employees working in the Arhive, their performance, salary, leave records are maintained by the department only.

Records can be destroyed if it is been decided by Archive. Or it can be kept for few more years under semi – permanent type. Again if file gets historical value it can be archived also.

2.9 Preservation

Conservation and preservation is the most important part in any archive. Archive deals with those documents which have historical and administrative values and which can serve the needs of national or personal interest in any time in future or present. Therefore, it is essential to conserve and preserve the documents (which are mainly paper documents), by the Archive. They use different types of measures,

a) Fumigation of Shelves

b) Lamination of rare paper works or documents

c) Regular Dusting and cleaning of shelves and rooms.

d) Digitisation of paper documents have been started.

CONCLUSION

Libraries and archives have much in common concerning user needs, but in addition there are special problems which to a large extent are limited to archives. Archives are created originally by persons and institutions in the course of their affairs, for their own purpose and not primarily for the use of others. What librarians often call government documents such as printed annual reports of departments, are also archival materials selected for immediate use and information of the general public through publications and, as such, become library material albeit with some problems of retrieval in common with original records.

In conclusion it can be said that the traditional archival information services are required to be replaced by modern techniques of documentation and dissemination of information. Modernization implies the advent of sophisticated techniques to control information and application of automated information methods for the dissemination.

But there are many obstacles which usually blocked the ways to implement the new and automated methods. Like, in case of West Bengal State Archives, they are facing an important problem of Finance, which hindered in development of archival activities. It also delayed the implication of computerization in all three branches of State Archive. Along with this, the State Archives is facing a problem regarding records , that is, the Archive is not receiving the governmental documents properly or regularly and this is because of lacking in Public Record Act. The remedial measure for this is the implementation of Public Record Act which give total power to the Archive for receiving all the documents of Government.

Regarding the preservation of documentary files, the State Archives is doing all the traditional and scientific measures of preservation. Therefore, the State Archives of West Bengal, is the mine of all the rare and precious documentary information not only of our state but also about India, which are needed to be preserved with care.

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AN ANALYTICAL STUDY OF THE DIPLOMA PHARMACY COLLEGE LIBRARIES OF WEST BENGAL

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Abstract: Pharmacy education is an important technical education, which is very popular in present day. To fulfill the need of the subject the Government is initiated for running many diploma pharmacy colleges in West Bengal We know that, library is the heart of any institution. The libranes of any institution play very important role by doing different activities, such as selection, collection, organization, preservation, dissemination of information. This study shows the present status, function and services of the libraries of these diploma pharmacy colleges of West Bengal

Key Words: <Diploma Pharmacy College>, <Library>, <West Bengal>

INTRODUCTION

Pharmacy education is the base foundation on which the edifice of the whole pharmaceutical industries, technology, research and clinical pharmacy are built. Pharmacy colleges are one type of technical college which is established for the technological development of manufacturing need of the pharmaceutical industries and government drug regulatory authorities. Libraries of these colleges are the most important component, as it supports study, teaching, research and extension programmes of the college to achieve the objective of the institute.

Pharmacy college libraries primarily stand for providing: (a) the educational needs of students, both those arising directly from the curriculum and those of a more general in nature, and (b) supporting the teaching staffs by providing up-to-date information which is required for their teaching and research work

Objective of the Study

(a) To ascertain the present status of the libraries.

(b) To examine the types of documents available in the libraries.

(c) To identify the different types of services and activities for providing information to the users of the libraries.

(d) To trace the growth and the development of collection of the libraries.

(e) To understand the problems related to collection development of the libraries

(f) To identify the different tools and techniques for collection and dissemination of the information.

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Importance of the Study

This study shows the present status of all the diploma pharmacy college libraries of West Bengal. This study analyses the procedures of information : selection, collection, procurement, preservation and dissemination of the libraries. This study also explores information about different aspects other than the above, such as, manpower, user, space, and different types of services of these libraries.

Scope and Coverage of the Study

This study covers all the diploma pharmacy college libraries of West Bengal

These are as follows:

- (i) Contai Polytechnic College
  Contai, P.O: Dhaura, Purba Midnapore
- (ii) Sree Ramkrishna Silpa Vidyapith
  Suri, Birbhum, West Bengal
- (iii) Jnan Ghosh Polytechnic College
  7, Mayurbhanj Road, South 24 Pgs.
- (iv) Siliguri Government Polytechnic College
  Debgram, Siliguri, Darjeeling
- (v) Women's Polytechnic
  Strand Road, Chandannagar, Hooghly
- (vi) Institute of Pharmacy
  Kenduadihi, Bankura
- (vii) Institute of Pharmacy
  A-118, Kalyani, Nadia
- (viii) Coochbihar Polytechnic College
  Coochbihar, North Bengal

In the Institute of Pharmacy, Jalpaiguri, Diploma and Degree in pharmacy both the courses are available. So it differs from many aspects, such as, collection, users etc. from the above mentioned diploma pharmacy colleges. Due to this reason this college is not included in this study.

Methodology

A questionnaire was prepared with unstructured method. Interview was taken of the librarian or the head of the institution for collecting information according to the questionnaire, observation process also taken into consideration. Collected data through the questionnaire and interview were presented in the tabulated form, interpretation and suggestions also presented in the study and conclusion drawn at the end of the study.

All the data of this study has been collected within the last three months in the year 2007

Analysis of Data

Table-1: Distribution of Print Documents in the Diploma Pharmacy College Libraries

Sl. No.	Name of the Colleges	Year of Establishment of Pharmacy Dept.	Books (Reference & Text)	Non Book Materials	
				No. of Current	
				Journals	Magazines
1.	Contai Polytechnic College, Contai	1994	2076	4	–
2.	Sree Ramkrishna Silpa Vidyapith, Suri	1997	1756	–	–
3.	Jnan Ghosh Polytechnic College, 24 Pgs(s)	1998	1698	9	–
4.	Siliguri Government Polytechnic, Siliguri	1996	2500	10	–
5.	Women's Polytechnic, Chandannagar	1997	1092	–	–
6.	Institute of Pharmacy, Bankura	1986	1098	–	–
7.	Institute of Pharmacy, Kalyani	1975	2194	–	–
8.	Coochbihar Polytechnic College, Coochbihar	1997	1925	8	–

The above table shows that the Contai Polytechnic College pharmacy library was established in the year 1994 and present collection of books is 2096. Only 4 Indian journals are subscribed by the library. Sree Ramkrishna Silpa Vidyapith pharmacy library was established in the year 1997 and present collection of books is 1756. No journal is subscribed by the library. In Jnan Ghosh Polytechnic College pharmacy library was established in the year 1998 and present collection of books is 1698. 9 Indian journals are subscribed by the library. Women's Polytechnic, Siliguri pharmacy library was established in the year 1996 and present collection of books is 2500. 10 Indian journals are subscribed by the library. In the year 1997, Women's Polytechnic, Chandannagar pharmacy library was established in the year 1997. 1092 is the collection of books in the year 2007. No journal or magazine is subscribed by the library. Institute of Pharmacy, Bankura was established in the year 1986 and now (2007) its collection is 1098. Institute of Pharmacy, Kalyani was established in the year 1975. Collection of books in the year 2007 is 2194. Coochbihar Polytechnic

College, pharmacy library was established in the year 1997 and in the year 2007 collection of books of this library is 1925. 8 journals are subscribed by this library but no magazines.

Table-2: Distribution of Electronic Documents in the Diploma Pharmacy College Libraries

Sl. No.	Name of the Colleges	Electronic Documents		
		Electronic Book	Electronic Journal	CD-ROM
1.	Contai Polytechnic College, Contai	–	–	22
2.	Sree Ramkrishna Silpa Vidyapith, Suri	–	–	–
3.	Jnan Ghosh Polytechnic College, 24 Pgs(s)	–	–	–
4.	Siliguri Government Polytechnic, Siliguri	–	–	7
5.	Women's Polytechnic, Chandannagar	–	–	–
6.	Institute of Pharmacy, Bankura	–	–	–
7.	Institute of Pharmacy, Kalyani	–	–	–
8.	Coochbihar Polytechnic College, Coochbihar	–	–	–

According to the table 2 no. diploma pharmacy college library subscribe any electronic books, journal and newspapers at all. The library of Contai Polytechnic College has twenty two (22 CD-ROMs) CD-ROMs in their collection, which is the highest number of CD-ROMs collection among these eight diploma pharmacy college libraries. Jnan Ghosh Polytechnic College has seven (7) CD-ROMs in their library. Except these two libraries other six diploma college libraries don't have any CD-ROM collections their libraries.

Table–3 : Distribution of Users of the Diploma Pharmacy College Libraries

Sl. No.	Name of the Colleges	Total User (Students, Teachers & Others) in the year 2007
1.	Contai Polytechnic College, Contai	130
2.	Sree Ramkrishna Silpa Vidyapith, Suri	132
3.	Jnan Ghosh Polytechnic College, 24 Pgs(s)	125
4.	Siliguri Government Polytechnic College, Siliguri	86
5.	Women's Polytechnic, Chandannagar	52
6.	Institute of Pharmacy, Bankura	119
7.	Institute of Pharmacy, Kalyani	130
8.	Coochbihar Polytechnic College, Coochbihar	49

The table 3 shows that Contai Polytechnic College library has 139 no. of user. Sree Ramkrishna Silpa Vidyapith library has 68 users. There are 122 no. of users in Jnan Ghosh Polytechnic College library. Siliguri Government Polytechnic library has 47 no. of users. Institute of Pharmacy, Chandannagar library has 52 users. Institute of Pharmacy, Bankura library has 119 users. Institute of Pharmacy, Kalyani library has 130 no. of users and there are 49 no. of users in the library of Coochbihar Polytechnic College

Table–4 : Distribution of Staff(s) in the Diploma Pharmacy College Libraries

Sl. No.	Name of the Colleges	No. of Staff (S)		
		Professional	Non-Professional	Total
1.	Contai Polytechnic College, Contai	2	–	2
2.	Sree Ramkrishna Silpa Vidyapith, Suri	2	1	3
3.	Jnan Ghosh Polytechnic College, 24 Pgs(s)	1	2	3
4.	Siliguri Government Polytechnic College, Siliguri	2	1	3
5.	Women's Polytechnic, Chandannagar	1	1	2
6.	Institute of Pharmacy, Bankura	–	–	–
7.	Institute of Pharmacy, Kalyani	1	1	2
8.	Coochbihar Polytechnic College, Coochbihar	1	1	2

Table 4 shows that Contai Polytechnic College library has 2 professional staffs only. Sree Ramkrishna Silpa Vidyapith & Siliguri Government Polytechnic College has 3 library staffs, among which 2 is professional library staff and 1 is non-professional staff. Jnan Ghosh Polytechnic College, Women's Polytechnic, Chandannagar and Institute of Pharmacy, Kalyani, Coochbihar Polytechnic College, Coochbihar Library has 1 professional staff and 1 non professional staff but Jnan Ghosh Polytechnic College library has 2 non-professional staffs. Institute of Pharmacy, Bankura library don't have any librarian or other library staff till now since its establishment in the year 1986.

Table-5 : Distribution of Services Rendered by the Diploma Pharmacy College Libraries

Sl. No.	Name of the Colleges	Book Bank Facility	Circulation of Books	Inter Library Loan Service	Photo-copying Service	Reference Service	Internet Service
1.	Contai Polytechnic College, Contai	No	Yes	No	Yes	Yes	No
2.	Sree Ram-krishna Silpa Vidyapith, Suri	No	Yes	No	No	Yes	No
3.	Jnan Ghosh Polytechnic College, 24 Pgs(s)	No	Yes	No	Yes	Yes	No
4	Siligun Government Polytechnic College, Siliguri	No	Yes	No	No	Yes	No
5.	Women's Polytechnic, Chandan-nagar	No	Yes	No	No	Yes	No
6.	Institute of Pharmacy, Bankura	Library acting as book bank	2 or 3 times/ year	No	No	No	No
7.	Institute of Pharmacy, Kalyani	No	Yes	No	No	No	No
8.	Coochbihar Polytechnic College, Coochbihar	No	Yes	No	No	No	No

The above table 5 is showing that no library is providing Book Bank Facility. The Institute of Pharmacy, Bankura college library does not have any librarian or other library staff. In this situation the faculty members, who take care of library, issue five books to each student at the beginning of the 1st and 2nd year and very often the library is opened for the student. So it can be said

that library is acting as Book Bank. Circulation service, which is the main service of these libraries are provided by all. Contai Polytechnic College and Jnan Ghosh Polytechnic College library are only providing photocopying facility to the users. Reference service is provided by all the libraries, where as no library provides Internet Search service facilities.

The table number-6 shows that all these eight libraries are doing different technical works, such as stamping, tagging, labelling, shelving of document etc. All the libraries are maintaining their accessioning work. Contai Polytechnic College library, Sree Ramkrishna Silpa Vidyapith library and Jnan Ghosh Polytechnic College library follow Dewey Decimal Classification Scheme (DDC) for classifying their books. Siliguri Government Polytechnic college library, Women's Polytechnic, Chandannagar library, Institute of Pharmacy, Bankura library, Coochbihar Polytechnic College don't have any classification tools, they maintain subject wise classification of books. Jnan Ghosh Polytechnic College library and the Institute of Pharmacy, Kalyani has the catalogue card for selection of books, but only Jhan Ghosh Polytechnic College has the catalogue code. Shelf list is also not available in any of these libraries.

The table number-7 shows, that all the libraries follow closed access system for circulating books except Jnan Ghosh Polytechnic College library and Coochbihar Polytechnic College library. All the colleges are sending reminder in a regular interval to the user for returning the books to the library timely. Contai Polytechnic College library maintains library card for the students and separate register for the faculty members. Fine is applicable to those students who do not return the books after examination. Sree Ramkrishna Silpa Vidyapith College library maintains library card for the students and separate register for the faculty members. Fine is not applicable to the students of this college. Jnan Ghosh Polytechnic College library maintains library card for the students and separate register for the faculty members. Fine is applicable to the students for delaying in returning the books of Rs.0.50 per day per document. Siliguri Government polytechnic college library maintains library card for the students and separate register for the faculty members. Fine is not applicable to the students of this college. They are also getting the reading room facility for the whole day for reading books and journals. Women's Polytechnic, Chandannagar college library maintains library card for the students and separate register for the faculty members. Fine is not applicable to the students of this college. Institute of Pharmacy; Bankura college library maintains separate registers for the students and faculty members. As no librarian or library staff is there in this college there is not any regular charging system. Institute of Pharmacy, Kalyani college library maintains library card as well as register for the student and separate register for the faculty member. Coochbihar Polytechnic College library maintains library card for the students and separate register for the faculty members. In case of fine, it charges Rs. 0.10 per day per book for 15 days and Rs. 0.50 per day per book after the 15 days till the date of return.

Table—6 : Distribution of Technical Services Rendered by the Diploma Pharmacy College Libraries

Sl. No.	Name of the Colleges	Bill Proce- ssing	Stamp- ing	Tagg- ing	Labell- ing	Accession- ing (Scheme Followed)	Classifi- cation (Code Followed)	Catelogu- ing	Shelf List	Card Filing	Shelv- ing
1.	Contai Polytechnic College, Contai	Yes	Yes	Yes	Yes	Yes	Yes(DDC)	No	No	Yes	Yes
2.	Sree Ramkrishna Silpa Vidyapith, Suri	Yes	Yes	Yes	Yes	Yes	Yes(DDC)	No	No	No	Yes
3.	Jnan Ghosh Polytechnic College, 24 Pgs(s)	Yes	Yes	Yes	Yes	Yes	Yes(DDC)	Yes(AAC R2R)	No	No	Yes
4.	Siliguri Government Polytechnic, Siliguri	Yes	Yes	Yes	Yes	Yes	Yes (Sub- ject Wise)	No	No	No	Yes
5.	Women's Polytechnic, Chandannagar	Yes	Yes	Yes	Yes	Yes	Yes (Sub- ject Wise)	No	No	No	Yes
6.	Institute of Pharmacy, Bankura	Yes	Yes	No	No	Yes	Yes (Sub- ject Wise)	No	No	No	Yes
7.	Institute of Pharmacy, Kalyani	Yes	Yes	Yes	Yes	Yes	Yes(Sub- ject Wise)	Yes	No	No	Yes
8.	Coochbihar Polytechnic College, Coochbihar	Yes	Yes	Yes	Yes	Yes	Yes (Sub- ject Wise)	No	No	No	Yes

Table–7 : Distribution of Access system and Circulation Procedure of the Diploma Pharmacy College Libraries

Sl. No.	Name of the Colleges	Access System	Charging System	Circulation Procedure	
				Reminder For Returning the Books	Fine Charged or not for Delay in Returning the Document
1.	Contai Polytechnic College, Contai	Closed Access	Library Card for student and Register for others	Yes	Yes(After last exam Date till Date of Return)
2.	Sree Ramkrishna Silpa Vidyapith, Sun	Closed Access	Library Card for student and Register for others	Yes	No
3.	Jnan Ghosh Polytechnic College, 24 Pgs(s)	Open Access	Library Card for student and Register for others	Yes	Yes(After 15 days Rs. 0.50/day/Book)
4.	Siliguri Government Polytechnic, Siliguri	Closed Access	Library Card for student and Register for others	Yes	No
5.	Women's Polytechnic, Chandannagar	Closed Access	Library Card for student and Register for others	Yes	No
6.	Institute of Pharmacy, Bankura	Closed Access	Two Separate Register for both Student and Staff	Yes (After Examination)	No
7.	Institute of Pharmacy, Kalyani	Closed Access	Library Card and Register for Student & Separate Register for others	Yes	No
8.	Coochbihar Polytechnic College, Coochbihar	Open Access	Library Card for student and Register for others	Yes	Yes(After due date Rs. 0.10 /day/book for days & after that Rs. 0.50/day/book till the date of Return

Table-8 : Distribution of Internal Services of Diploma Pharmacy College Libraries

SI. No.	Name of the Colleges	Regular Stack Rectification Done or Not	Stock Verification Done or Not	Preservation and Conservation Done or Not	Audit Program Done or Not
1.	Contai Polytechnic College, Contai	Yes	1Time/ 4 Year	Yes	—
2.	Sree Ramkrishna Silpa Vidyapith, Suri	Yes	—	Yes	1 Time/Year
3.	Jnan Ghosh Polytechnic College, 24 Pgs(s)	Yes	Not done for last 4 years	Yes	1Time/ 4 Year
4.	Siliguri Government Polytechnic, Siliguri	Yes	No	Yes	Not Stated
5.	Women's Polytechnic, Chandannagar	Yes	1Time/ 2Year	Yes	Not Stated
6.	Institute of Pharmacy, Bankura	Yes	1Time/ 2Year	Yes	—
7	Institute of Pharmacy, Kalyani	Yes	1Time/Year	Yes	1Time/Year
8.	Coochbihar Polytechnic College, Coochbihar	Yes	1Time/Year	Yes	1Time/Year

The table number 8 shows that all the libraries have regularly done the stack rectification work. Contai Polytechnic College library verifies their library stock 1 time for 4 years. Jnan Ghosh Polytechnic College library is not doing stock verification job for last 4 years. Institute of Pharmacy, Kalyani and Coochbihar Polytechnic College library is doing their stock verification jobs once in a year regularly. Women's Polytechnic, Chandannagar and Institute of Pharmacy, Bankura is doing their stock verification jobs 1 time for 2 years. So it can be said that after analyzing the above data stock, which is an important task for a library but not done regularly. All the libraries are doing their preservation work regularly (e. g. dusting, binding, pest control etc.)

Table–9 : Distribution of Floor Space and Reading Seats in the Diploma Pharmacy College Libraries

Sl. No.	Name of the Colleges	Floor Space In Sq. ft.	No. of Reading Seats
1.	Contai Polytechnic College, Contai	2200	45
2.	Sree Ramkrishna Silpa Vidyapith, Suri	Not Stated	Not Stated
3.	Jnan Ghosh Polytechnic College, 24 Pgs(s)	2600	30
4.	Siliguri Government Polytechnic, Siliguri	800	20
5.	Women's Polytechnic, Chandannagar	2000	50
6.	Institute of Pharmacy, Bankura	550	10
7.	Institute of Pharmacy, Kalyani	700	12
8.	Coochbihar Polytechnic College, Coochbihar	780	10

The Table 9 shows that Jnan Ghosh Polytechnic College library has the highest floor space of 2600 sq.ft. Contai Polytechnic College library is in the second position with the floor area of 2200 sq. ft. Women's Polytechnic college library is in the third position with its floor space of 2000sq. ft. Siliguri Government polytechnic college has the floor area of 800 sq.ft. Institute of Pharmacy, Kalyani College has the floor area of 700 sq.ft, Coochbihar Polytechnic College library has the floor area of 780 sq.ft. and Institute of Pharmacy, Bankura has the lowest floor area of 550 sq.ft among these eight libraries.

Women's Polytechnic, Chandannagar is providing maximum seating (50 seats) arrangement among these eight libraries. Contai Polytechnic College library is in the second position with the seating arrangement of 45 seats. Jnan Ghosh Polytechnic College library is providing 30 seats in the reading room. Siliguri Government polytechnic college is providing 20 seats in the reading room. Institute of Pharmacy, Bankura and Institute of Pharmacy, Kalyani and Coochbihar Polytechnic College library is providing less than 15 seats in the reading room.

Table–10 : Distribution of Library Hours and Working Days of the Diploma Pharmacy College Libraries

Sl. No.	Name of the Colleges	Library Hours in Week Days	Working Days
1.	Contai Polytechnic College, Contai	10a.m. to 5p m	Six days in a week (Monday - Saturday)
2.	Sree Ramkrishna Silpa Vidyapith, Suri	10.30a.m. to 5.30p m	Six days in a week (Monday - Saturday)
3.	Jnan Ghosh Polytechnic College, 24 Pgs(s)	10a.m. to 5p.m.	Six days in a week (Monday - Saturday)
4.	Siliguri Government Polytechnic College, Siliguri	10.30a.m. to 5p.m.	Six days in a week (Monday - Saturday)
5	Women's Polytechnic, Chandannagar	10.30a.m. to 4.50p.m.	Six days in a week (Monday - Saturday)
6.	Institute of Pharmacy, Bankura	No Fixed Llibrary Hour	Library is not open Everyday
7.	Institute of Pharmacy, Kalyani	10a.m. to 5p.m.	Six days in a week (Monday - Saturday)
8.	Coochbihar Polytechnic College, Coochbihar	10a.m. to 5p.m.	Six days in a week (Monday - Saturday)

After analyzing the above table it can be said that all the libraries open within 10 a.m. to 10.30 a.m. and close within 5 p.m. to 5.30 p.m. and all are maintaining six days in a week. Saturday is considered as half working day and the libraries are opened for 7 hours for the students There is no opening and closing time for the Institute of Pharmacy, Bankura as there is no library staff.

Table – 11: Distribution of Fund Providers and Library Budget Allocation of the Diploma Pharmacy College Libraries

Sl. No.	Name of the Colleges	Funded By	Library Budget Allocation
1.	Contai Polytechnic College, Contai	Directorate of Technical Education, Government of West Bengal	Irregular & Flexible Budget Allocation (Depends upon Government)
2	Sree Ramkrishna Silpa Vidyapith, Suri	Directorate of Technical Education, Government of West Bengal	Irregular & Flexible Budget Allocation (Depends upon Government)
3.	Jnan Ghosh Polytechnic College, 24 Pgs(s)	Directorate of Technical Education, Government of West Bengal	Irregular & Flexible Budget Allocation (Depends upon Government)
4.	Siliguri Government Polytechnic, Siliguri	Directorate of Technical Education, Government of West Bengal	Limited & irregular & Depends upon Government

5.	Women's Polytechnic, Chandannagar	Directorate of Technical Education, Government of West Bengal	Irregular & Depends upon Government
6.	Institute of Pharmacy, Bankura	Government of West Bengal, Finance Department	Government of West Bengal, Finance Department
7.	Institute of Pharmacy, Kalyani	Government of West Bengal, Finance Department	Limited & irregular & Depends upon Government
8.	Coochbihar Polytechnic College, Coochbihar	Directorate of Technical Education, Government of West Bengal	Limited & irregular & Depends upon Government

The above table shows that other than the Institute of Pharmacy, Bankura and Institute of Pharmacy, Kalyani library all the libraries are funded by the Directorate of Technical Education, Government of West Bengal and these two libraries are funded by the Government of West Bengal, Finance Department. The table also shows that all these eight libraries have no fixed budget allocation.

Table–12 : Distribution of Establishment Year, Age and Present Collection of the Diploma Pharmacy College Libraries

Sl. No.	Name of the Colleges	Year of Establishment of Pharmacy Dept.	Age as on 31. 12. 2007	Total Collection
1.	Contai Polytechnic College, Contai	1994	14	2076
2.	Sree Ramkrishna Silpa Vidyapith, Suri	1997	18	1756
3.	Jnan Ghosh Polytechnic College, 24 Pgs(s)	1998	19	1698
4.	Siliguri Government Polytechnic, Siliguri	1996	12	2500
5.	Women's Polytechnic, Chandannagar	1997	13	1092
6.	Institute of Pharmacy, Bankura	1986	22	1098
7.	Institute of Pharmacy, Kalyani	1975	33	2194
8.	Coochbihar Polytechnic College, Coochbihar	1997	44	1925

Pharmacy library of Contai Polytechnic College was established in the year 1994 and within 14 years its collection of books is 2076. Sree Ramkrishna

Silpa Vidyapith pharmacy department and the library was established in the year 1997 and within 11 years its collection of books is 1756. Jnan Ghosh Polytechnic College pharmacy library was established in the year 1998 and within 10 years its collection of books is1698. Siliguri Government Polytechnic College pharmacy library was established in the year 1996 and within 12 years its collection is 2500 no. of books. In Women's Polytechnic, Chandannagar pharmacy library started from 1997 and now within 13 years the collection of books is 1092. Institute of Pharmacy, Bankura established in the year 1986 and its library started after three years and now its collection of books is 1098. Institute of Pharmacy, Kalyani was established in the year 1975 and within 33 years its collection of books is 2194. Coochbihar Polytechnic College pharmacy library which was established in the year 1964 and within 44 years its collection of books is only 1925.

CONCLUSION AND SUGGESTIONS

From this study we can conclude that the conditions of the diploma pharmacy college libraries are very poor in terms of collection of books, journals, electronic documents etc. In the age of electronics no library subscribes any electronic documents. Only two libraries among these eight libraries provide photocopying service to the users of the library. As far as man power is concerned, almost all the libraries are under-staffed. Institute of Pharmacy, Bankura library don't have any library staff since the time of establishment. There is no fixed budget for the betterment of the libraries. Many libraries among these eight libraries don't perform complete classification and cataloguing work, as they don't have any classification schedule and catalogue code in the library. Mainly the circulation service and reference is the only service of most of the libraries. In the age of internet no library provides the internet service to the users.

Photocopying service, library bulletin service, internet service, inter-library loan service, Current Awareness Service (CAS), Selective Dissemination of Information (SDI) service, bibliographic service should be implemented by the library of these diploma pharmacy colleges. For providing these services and . making the library qualitative and attractive the library committee, college authority and Government should take initiative for implementing the following activities to the library·

i. More employment of library and information professionals for smooth functioning of the library and for providing different library services to the users.

ii. Implementation of modern technologies, computerization of operations and electronic services in the libraries for fast communication of information.

iii Implementation of fixed budget for the overall improvement of the library.

iv. Promote sharing of resources by inter-library loan service among the member libraries through computerized networking for maximum use of resources and co-operative collection development of the member libraries.

v. Preparation of union catalogue of these pharmacy college libraries by involving standard and uniform guidelines in preparation of cataloguing of books, serials, non-book materials.

vi. Arrangement of exhibition, book fair etc. every year.

vii. Conducting user orientation programme for the new students or members of the library.

viii. Organizing refresher course or any other short course for the library professionals.

It is expected that in near future the condition of these diploma college libraries will be improved with the co-operation of the college authority, librarian and our Government and the library professionals must acquire IT related knowledge and skill and some personal qualities for providing good quality library service to the users.

ACKNOWLEDGEMENT

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EXPANDING HORIZON OF INFORMATION SERVICES TO THE DISADVANTAGED : A STUDY ON DHIMAL COMMUNITY AT NAXALBARI BLOCK OF DARJEELING DISTRICT

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Abstract: This study depicts a picture about the Dhimal Community of Naxalbari Block of Darjeeling District, W.B. The study shows the socio-economic condition of Dhimal Community with tabular analysis considering all the aspects of their life. Overall, it is a lucid and vivid description about the peoples belonging to the Dhimal Community.

Key Words: <Information Service>, <Dhimal Community>, <Naxalbari>, <Darjeeling>

INTRODUCTION

When we think about Darjeeling first image that comes to our mind is of a beautiful landscape surrounded by hills. But besides that natural scenario, another characteristic which may draw the attention of the academicians is the presence of many anthropological units comprising population of rural communities. One such area which marked by diverse group of communities [like Rajbansis, Dhimals, Nepalese, Bengalees] is Naxalbari Block of the Siliguri Sub-division of Darjeeling District. Siliguri Sub-division, one of the Sub-divisions of Darjeeling district, consists of four blocks. Naxalbari as a block, again consists of 6 Gram Panchayats

Maniram Gram Panchayat holds significance as rural communities like Rajbansis, Dhimals, Nepalese, Bengalese are scattered across this area. The Dhimal community has been residing over there for ages.

The Overall development of a community is not only concerned with narrow economic parameters; but also concerned with a perception that comprises a widening choice of expansion of freedom, fulfillment of human rights, sharp focus on issues of deprivation and inequality. This concept is embedded in the firm commitment to democracy, human rights, participation and deep respect for the environment. In this perspective, information has the most influential role to play. Only the information empowered/informed members of community can contribute significantly in achieving the development in achieving the developmental goal.

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Community information service has a significant role to play in the development process of disadvantaged community. Development, in true sense of the term, can only be achieved through the participation of the community members who are well informed and well-aware of their rights and- duties. Community information service addresses a wide range of issues under its gamut such as family and personal matter, consumer information, income, health and hygiene, housing, legal protection, human rights, economic rights, economic opportunities, welfare services, etc.

SCOPE & COVERAGE

The survey reveals the community information needs of Dhimal community who reside in the Maniram Gram Panchayat of Naxalbari village which comes under the jurisdiction of Darjeeling district with its subdivisional headquarter at Siliguri. The study covers the people belonging to Ketugabur jot, Surajbor jot and sheuor jot of Maniram. Gram panchayat. Not only the adult male and female but people belong to the age of below 18 are also considered as the sample population for this survey. Maniram gram panchayat consists of estimated population

The survey population includes 140 people of which 72 are male 68 are female & 22 people are below 18 years The study covers some demographic characteristics i.e. the distribution according to age & gender of the people. The study also tries to find out the information regarding their educational and occupational structure, their economic condition, health & hygiene, their housing condition and other aspects are covered. The origin of the community and their social status are special focus and main two issues of investigation of this study.

LITERATURE SEARCH

In order to fulfill the objective of the study different types of literature have been studied An article titled "on the origin, location, numbers, creed, customs, character and condition of the Koch, Bodo and Dhimal people, with a general description of the climate they dwel in" by Brian Houghton Hodgson in the journal of Asiatic Society, 1849, presents a clear view of different aspects of Dhimal. Another article by Suniti Kumar Chatterji titled 'Kirata-Jana Kriti' in the journal of Asiatic Society 1950, has studied for the anthropological, historical and sociological perspective of Dhimal A book written by H.H. Risley titled "The tribes and casts of Bengal: ethnographic glossary" which presents a detailed account of internal structure, marriage, religion, funeral, soial status and occupation has been consulted. In addition to the above mentioned literatures, a number of literature, namely the Rajbansies of North Bengal by Charu Charan Sanyal, Asociological study of the toto folk tales by Bimalendu Majumder, Linguistic survey of India / compiled and edited by G. A. Grierson, Encyclopaedia of India by H. Harch, People of India : West Bengal by K. S. Singh, Dhimal by Shekar Bandopadhay, etc have been studied. Besides this an article, 'Over the edge of information in the information age: Informal behaviour of the totos: a small marginal tribal community in Sub-Himalayan North Bengal, India- One individual perspective' written by Dr. Biplab Chakrabarti and a previous work on Dhimal community named as 'Information Need of

Dhimal Community Under Naxalbari Block of Darjeeling District: A survey' written by Dr. Biplab Chakrabarti and Others are also consulted. In order to get the statistical information on Dhimal population census report and electorate list have been consulted. Again, different websites have been browsed for current information and the findings of studies undertaken recently on Dhimals.

OBJECTIVES OF THE STUDY :

The objectives of this field study are :

i) To identify the identity of Dhimal tribes

    a) Origin

    b) Migration

    c) Social status

ii) To study the profile of this community

iii) To study the information need of the Dhimal community in I community different aspects of their life.

iv) Role of Gram Panchayat in the development of the community.

v) To draw a conclusion based on the findings and suggest some measures for socio-economic development.

METHODOLOGY :

This study has been made to explore the information needs of Dhimal community of Darjeeling district. This study is mainly based on Survey methods which include field survey and to supplement this survey some Government documents and other authentic documents, collected from authorized person, have been consulted. This has been dived to 4 phases to make it comprehend.

Phase I : Literature Search

In the first phase the information are collected through literature on Dhimal and related aspects, especially their information need, have been studied to get a clear picture about the sociological status of the Dhimals.

Phase II : Designing the Questionnaire

Basically in this study an attempt has been made to enquire the information needs and information seeking pattern of the people on this community, an unstructured questionnaire has been prepared comprising the various aspects of lifestyle of Dhimals. The questions were designed in such a way that we can fulfill our objectives and also present the data and tables for better presentation.

Phase III : Selection of Samples

In this phase, after designing the questionnaire was to select the samples from the community peoples are collected through questionnaire followed by personal interaction and observation. The non-participant observation has been made in this study. Samples of 140 respondents are taken out of 981 total population through random sampling from both the sex.

Phase IV : Measurement and Scaling of the Data

All the collected data have been summarized, tabulated and analyzed. The data have been explained with the help of different charts, tables etc. The tabulation formats were designed item wise followed by logical interpretation.

ORIGIN AND MIGRATION:

The Dhimals are believed to be the first people to inhibit the far eastern Terai of Nepal. They burn all the belongings and documents of a person from their tribe after he or she dies, so their origin is unknown. Risley reported that Dhimals belong to the same main stock as the Kochh as they resemble closely in nature. He also pointed out that the scanty legends current among other races regarding their origin refer to their association with Mech tribe. The Dhimals of Dhimal jote do not support this view, they say that they migrated from the West Terai jungle area across the Mechi River. Now they live in the foothills of Darjeeling district and confine themselves within such villages as Mouri jote, Mallabari, Ketugabur etc.

Professional Migration

Now-a-days many Dhimal are migrated towards Rajasthan, Kerala etc. for earning money

Garjan Mallick's point of view :

According to the version of Garjan Mallick, the leader of the community Dhimal used to live in the bank of Hoang-Ho River. Their migration started from Assam. With the course of time they traveled the following path

Assam → Patkai → Konkai river of Nepal

(Kachar) (Dhimal village)

From this diagram it is clear that their migration moved from east to west which is also mentioned in their rituals.

There are many similarities between Limbu and Dhimal in respect of their behaviors, food habit and physical structure. So it may be concluded that Dhimal are originated from Limbu. There is another opinion which supports that they originated from Mongoloids.

PROFILE OF DHIMAL COMMUNITY

Dhimals are a minority indigenous nationality of eastern Terai who reside in the Maniram Gram Panchayat of Naxalbari village which comes under the jurisdiction of Darjeeling district with its sub divisional headquarter at Siliguri.

According to the 2001 Indian census, the Dhimal is one of the smallest tribes in India, totaling a number of approximately 981 people reside in the indian terai region.

In Maniram gram panchayat Dhimals live in four hamelets viz. Ketugabur, Surajborjot, Seuborjot and Pataram.

Dhimal have their own unique culture and customs The following points reflect their livelihood, social organisation, culture etc.

1. Food Habits

The Dhimals are non vegetarian. They eat mutton, pork, egg etc. Rice is their staple food. They also eat pulses 'like moong, musur, khesari and gram and vegetables available in the market besides roots and tubers. They use mustard oil as cooking medium. The adult dhimals do not drink milk. The Dhimals are very fond of home brewed alcoholic drinks.

2. Clothing

Dhimal women wear only a bona, which is a long piece of cloth wrapped around them. The men traditionally wore a loin-cloth, vest and cap, but many have begun to wear more typical Nepali dress, such as a double-breasted shirt with pants.

3. Dwelling

Dhimals' houses are made up of mud and bamboos. The roofs are generally made up of straw and wall made of split bamboo covered by mixture of soil and cow dung. The entrance is furtished with various designs like peacock, flowers, leaves etc. Several trees like mango, kadam, and jackfruit are planted around the houses. Now-a-days some dhimals who can afford construct their houses with bricks, cements etc.

4. Occupation

Dhimals are dependent on agriculture. Fishing, making khungi (a kind of long basket useful for fishing), making bamboo containers to protect seeds, making spinning wheels of bamboo, bhakari (a bamboo mat made of straps) and chitra (mats made of split canes) of bamboo, making ropes, bows and arrows, making ploughs and yokes, making herbal medicines are their special skills. But besides this the other ways of earning are *Erica* nut processing, beverage processing, livestock maintaining etc. The women of Dhimal community are considered independent and they run their own privately owned businesses. They get encouragement for such work from their families but they are not entitled to a share of inherited properties.

5. Marriage

Among Dhimals monogamy is the usual form, though polygamy is preferred.

Marriage can be conducted in any one way, i.e. by elopement, request or persuasion. The marriageable age for boys is 18-22 years and for girls 14-18 years Risley reported that infant marriage is almost unknown among the Dhimal.

6. Religion

Dhimals are animists or worshippers of nature. They worship various gods like Sakodir, the family god, Jaurage, or the god of ancestors, Gramdeer, or the god of village, Dharni Berang, or the god of hearth, etc. They believe in soul, ghosts and spirits. Their dhamis and jhakris or shamans are called

Ojha. They have immense loyalty/allegiance towards such Ojhas. There is a sense of very heavy oppression and spiritual darkness within the Dhimal villages. Pray against the demonic spirits that are keeping the Dhimals in darkness and fear.

7. Rituals

The dhimal cremate their dead. After 13 days a sradh is held. Ritual offerings on pig, hen, curd and pressed rice are made to ancestors.

8. Language

Dhimals have their unique language. But they do not have any script. Gearson coined the term *pronomilised fu* this Himalayan language.

9. Education

Above 50% of the population are illiterate among which most of them are women. Many aged people have the desire to learn but there is no such opportunity. There are two primary schools in the village and one high school is there but it is 3 km away from the village.

10. Heath

The community is not concerned about health and hygine. They suffers from various diseases but rely only the traditional treatment. They seldom go to the doctors.

SOCIAL STATUS :

At present Dhimals belong to the OBC category. But they cry for ST status. Because, if they will acquire the ST status they get the benefits and opportunities of Schedule Tribes which helps in the upliftment of the community.

Characteristics that support their ST status

1. Terai region is a malaria dominated zone. Dhimals lived here since 2000-3000 years and for this reason they fight against malaria by generating antibodies in their body.

2. Distinctive culture.

3. They pray nature and they have their own unique religion.

4. Particular types of dresses

5. Backwardness

6. They are confined in a definite place.

7. Indication of primitive traits.

These above mentioned characteristics strongly supported their ST status.

ANALYSIS OF THE DATA

The following tables represents the data which are collected by the survey.

TABLE-1 : DISTRIBUTION OF POPULATION ACCORDING TO AGE AND SEX

AGE GR.	MALE	FEMALE	TOTAL	Percentage(%)
Below 18	2+1+7 = 10	4+4+4 = 12	22	15.71%
18-28	8+6+3 = 17	6+4+7 = 17	34	24.28%
28-38	2+3+8 = 13	7+6+7 = 20	33	23.57%
38-48	3+5+4 = 12	2+4+3 = 9	21	15.00%
48-58	3+5+3 = 11	2+4+2 = 8	19	13.57%
58-68	4+3+2 = 9	0+1+1 = 2	11	7.87%
68-Above	0+0+0 = 0	0+0+0 = 0	0	0%
Total	72(51.43%)	68(48.57%)	140	100%

This table is divided in six different age groups i.e. below 18, 18-28, 28-38, 38-48, 48-58, 58-68, 68-above. From this table it is revealed that there are 72(51.43%) male and 68(48.57%) female in the sample population. In the age group of below 18 total number of male is 10 and female is 12 So 22 persons belong to the age group of below 18 which is 15 71% of the total respondents. Similarly in the age group of 18-28, 17 male respondents and 17 female respondents are present. So, there are 34 persons in the age group of 18-28 which is 24.28% of the sample population. 13 male and 20 female are there in the age group of 28-38. Total 33 persons i e. 23.57% belong to this age group. In the age group of 38-48, 12 male and 9 female belong that means 21 i e. 15% persons are in this age group. 11 male and 8 female i.e. total 19 persons belong to the age group of 48-58 which is 13.57% of the total respondents. In the age group of 58-68, 9 male and 2 female i.e. total 12 persons are there which 7.87% of the sample population is. Nobody is in the category of 68-above in the total respondents.

So it is very clear from the table that number of male is greater than number of female. In the age group of below 18, 28-38 female population is greater Total number persons are highest in the age group of 18-28. So, it can be concluded that young people of age 18-28 covers the major portion of the population.

TABLE-2 : RATIO OF MUD & CONCRETE HOUSE

MUD	PERCENTAGE(%)	CONCRETE	PERCENTAGE(%)	TOTAL(%)
15+7+22 = 44	51.48%	3+2+5 = 10	18.52%	54 (38.56%)

TABLE-3 : RATIO OF SOURCE OF FOOD : MARKET & SELF-CULTIVATED

MARKET	PERCENTAGE(%)	SELF-CULTIVATED	PERCENTAGE(%)	TOTAL
2+17+5 = 24	44.44%	16+7+7 =30	55 55%	54 (38.56%)

Out of 54 families 44 (81.48%) have mud house and 10 (18.52%) have concrete house.

It is observed here that most of the families reside in mud house and a very few have concrete house. Out of 54 respondents 24 (44.44%) buy food from market and 30 (55.56%) meet up their demand for food from the self-cultivation.

This table highlights there socio-economic condition i.e. the majority is poor.

TABLE-4 : DISTRIBUTION OF RESPONDENTS IN RESPECT OF EDUCATIONAL QUALIFICATION

AGE GROUP YEARS	LITERATE													ILLITERATE		
	Upto V		Upto VIII		Upto X		Upto XII		Graduation		P.G. Level		Total	Male	Fe Male	Total
	M	F	M	F	M	F	M	F	M	F	M	F				
Below18	0	3	7	9	2	0	0	0	0	0	0	0	21	01	0	01
18—28	1	3	4	3	4	0	0	0	1	0	1	0	17	04	13	17
28—38	4	3	2	0	0	0	0	0	0	0	0	0	09	08	16	· 24
38—48	1	4	0	0	2	0	0	0	0	0	0	0	07	09	05	14
48—58	5	1	1	0	0	0	0	0	1	0	0	0	08	05	06	11
58—68	7	0	0	0	0	0	0	0	0	0	0	0	07	02	02	04
Above68	0	0	0	0	0	0	0	0	0	0	0	0	0	00	00	00
Total	18	14	14	12	08	00	00	00	02	00	01	0	69 (49.29%)	29 (40.85%)	42 (59.15%)	71 (50.71%)

TOTAL PERCENTAGE OF LITERACY = 49.29%

PERCENTAGE OF LITERACY OF MALE = 62.32%

PERCENTAGE OF LITERACY OF FEMALE = 37.68%

TOTAL PERCENTAGE OF ILLITERACY = 50.71%

This table shows the distribution of respondents in respect of educational qualification. At first we have divided the total respondents into two classes i.e. Literate and illiterate. Then the literate class have also been further divided

into six classes i.e. upto class IV, upto class VIII, upto Class X, upto Class XII, Graduation and Post-Graduation Level After that all, classes have further sub-divided into two i.e. male and female. It is noted that those who have read or are now studying class preprimary to class IV, have been categorized as upto class IV group. Similarly those who have read or are now studying class V to class VIII have been categorized as upto class VIII group and so on. In this table we have grouped the total respondents into seven different age group of which first age group is below eighteen. It is noted that in below 18 age group, we have considered those boy and girls whose age is more than 10 years but below 18 years. This table shows that out of total 140 respondents only 69 persons are literate. The rate of literacy is 49.29%, out of 69 literate persons, 43 are male and 26 are female. This indicates that the rate of literacy in case of male (i.e. 63.32%) is very much higher than the literacy rate of female (37.68%).

The above mentioned table shows us that in the age group of below 18 years 3 persons, who are all females, have either passed or are studying class IV level, 16 persons, of whose 7 are males and 9 are females, have either passed and are studying class VIII level. In this age group, there is not a single person who has passed or is studying beyond class VIII.

In the age group of 18-28 years, 4 persons of whose one is male and 3 are females, passed class IV level, 7 persons of whose all are males, passed class X level, 1 person, who is male is studying his graduation level and only one male candidate is studying master degree, is going to the first master degree holder candidate in. this community.

In the age group of 28-38 years, 7 persons of whose 4 are males and 3 are females, completed class IV level. Only 2 men passed their VIII level. There is no any one in this age group who has done further study.

In the age group of 38-48 years, one male and 4 females passed class IV level, only 2 men passed class X level. Nobody has done any further study in this age group.

In the age group of 48-58 years, 5 men and 1 women passed class IV level, 1 male pass class VIII level & only 1 male pass graduate level.

In the age group of 58-68 years only 7 men passed class IV level There is no one who has done further study in this age group. Out of total 140 respondents there is none whose age has fallen in the age group of 68 and above.

Out of total 140 respondents, 32 persons passed upto class IV, 26 persons passed upto class, X, 2 persons passed upto graduation and only 1 person is studying at post graduate level.

From this table it is clear that most literate persons belong to the below 18 years to the 28-38 years age group. On the other have least educated persons belong to the 38-48 years and 58-68 years age groups and least illiterate persons belong to the below 18 years age group.

The above mentioned table shows us that out of total 140 respondents 71 persons of whose 29 males and 42 females, are illiterate. This indicates that the rate of illiteracy is 50.71% the rate of illiteracy in case of males and females are 40 85% and 59.15% respectively.

In the age group of below 18, 1 male out of 140 respondents is illiterate. In the age group of 18-28 years, 17 persons of whose 4 male and 13 females are illiterate. In the age group 28-38 years, 24 persons of whose 8 males and 16 females are illiterate. In the age group of 38-48 years, 9 males and 5 females are illiterate. In the age group of 48-58 years, 11 persons of whose 5 males and 6 females are illiterate and in the age group of 58-68 years, 2 males and 2 females are illiterate.

From this table, if we compare literate and illiterate persons according to their different age group, we may find that in the age group of below 18 years, total numbers of literate persons are 21 whereas only 1 person is illiterate. In the age group of 18-28 years, equal numbers of persons (17 persons) are literate and illiterate. In the age group of 28-38 years, 9 persons are literate and 24 persons are illiterate In the age group of 38-48 years

7 persons are literate and 24 persons are illiterate. In the age of 48-58 years,

8 persons are literate and 11 persons are illiterate. In the age group of 58-68 years, 7 persons are literate and 4 persons are illiterate.

TABLE–5 : DISTRIBUTION OF POPULATION ACCORDING TO SOURCES OF INCOME

Age Group	Agric-ulture	Daily Labour	Wood Colletion	Livest Ock	Trade		Hand-icraft	Employment	
					Eric anu	Groc ery		Govt.	Sale Empl oyed
Below18	2	4	0	0	0	0	0	0	0
18-28	14	5	0	1	2	0	0	0	1
28-38	14	11	1	1	0	1	0	0	1
38-48	20	10	0	1	0	0	0	0	0
48-58	14	2	0	1	0	0	5	2	0
58-68	9	2	0	0	0	0	16	0	0
68-above	0	0	0	0	0	0	0	0	0
Total (%)	73 (52 14%)	34 (24. 29%)	1 (0 71%)	4 (2. 86%)	2 (1. 43%)	1 (0 71%)	21 (15%)	2 (1.43%)	2 (1.43%)

This table shows that out of 140 sample population, 73 respondents 52.14%) are engaged in agricultural activities. 34 respondents (24.29%) are daily labours. One respondents (0.71%) is engaged in wood collection. 4 respondents are engaged in rearing livestock (2.86%). 3 persons (2.14%) are engaged in trading of which 2 persons (1.43%) are involved in Erica nut processing and one person (0.71%) owns a grocery shop. 21 persons (15%) earn their living by making 'dhokra' and 'Yu'. 2 persons (1.43%) are in govt. service and 2 persons (1.43%) are self-employed.

It can be concluded that majority of the respondents are engaged in agriculture which is their main source of income. So, it can be found Dhimals are still live in agrarian society where there is no influence of industry on technology in their livelihood. They earn their bread and butter mostly through agriculture.

TABLE–6 : DISTRIBUTION OF POPULATION ACCORDING TO MONTHLY INCOME

Age Group	Below 1000		1000-2000		2000-3000		3000-Above		NIL	
	M	F	M	F	M	F	M	F	M	F
Below18	1	2	1	0	0	0	0	0	9	7
18-28	3	6	7	5	2	0	2	0	3	2
28-38	4	9	10	6	0	1	1	0	0	3
38-48	0	3	9	4	2	0	1	0	1	2
48-58	2	3	5	2	4	0	2	0	0	2
58-68	3	1	2	1	3	2	0	0	0	0
68-above	0	0	0	0	0	0	0	0	0	0
	13 (9. 84%)	25 (17. 86%)	34 (24. 29%)	18 (12. 86%)	11 (8. 33%)	3 (2. 27%)	6 (4. 54%)	0 (0%)	13 (9. 84%)	16 (12. 12%)

From this table it is revealed that 38(27.7%) persons earn less than Rs. 1,000. in a month of which 13(9.84%) male and 25 (17.86%) female. The monthly income of 52(37.15%) persons is between 1000 to 2000 rupees of which 34 (24.29%) persons are male and 18 (12.86%) are female. 14 persons (10.6%) persons earn 2000-3000 rupees in a month of which 11 (8.33%) are male and 3 (2.27%) are female. Rs. 3000 and above is earned by only 6 (4.54%) male persons. 29 (21.96%) persons have no income of which 13 (9.84%) are male and 16 (12.12%) are female.

So, it is clear that majority of the population earn Rs. 1000-2000 in a month. But also a major portion of population has no earning. Only a few persons earn 3000 & above. This picture depicts that this population is financially very weak.

TABLE-7 : DISTRIBUTION OF HAVING INFORMATION ON HEALTH & HYGIENE

Age Group	Health Consultation			Vaccination Programe		Hygiene			
	Tradi-tional Treat ment	Modrn Treat ment (Hos pital)	Both	Aware	Una-ware	Drin-king water	Mos-quito	Latrine use	Cleanig agent
Below 18	0	1	20	22	3	16	1	17	20
18-28	5	4	26	30	6	20	3	28	29
28-38	2	2	24	27	1	18	4	31	32
38-48	1	0	20	20	3	12	0	17	19
48-58	3	3	14	16	2	8	1	18	18
58-68	2	1	10	0	0	6	1	11	11
68-above	0	0	0	0	0	0	0	0	0
Total	13 (9 28%)	11 (7. 58%)	104 (74. 28%)	125 (89. 28%)	15 (10. 71%)	80 (57. 14%)	10 (7. 14%)	122 (87. 14%)	129 (92. 14%)

In this table health consultation has been divided in, 2 sections —traditional treatment and hospital or modern treatment. 9.28% of sample population prefers traditional system and 5.8% prefer hospital treatment. While surveying we have found that traditional treatment includes magic healing (Jhar-Phook) and ayurveda(Jari-buti). Whenever a person falls ill he is first treated with some medicinal herbs. If this preliminary treatment fails, he is then taken to the magic healer (Ojha). In earlier days there magic healers used to perform some healing rituals and give some magic potions, free of cost. But now-a-days they are charging quite a lot of money which the poor Dhiamls are finds expensive. It is to be mentioned that sometimes these "Ojhas" provide some alophatic medicines. It has been also noticed that ayurvedic treatment is generally gives for physical ailments and magic healing for mental disturbances.

The division 'hospitals' includes allopathic and homeopathic treatment. This is the last and least preferred medium of treatment, among the Dhimals Some kind of inexpressible aberration is there regarding this kind of treatment Naxalbari Gramm Hospital is the nearest hospital which is 4-5 km far from the Dhimal habitation. Many a poor Dhimals find the conveyance cost, expensive. Sometimes they have to buy some prescribed allopathic medicines which the hospital fails to provide. This goes beyond their reach We have noticed that among the small percentage of Dhimals who avail hospital treatment, prefer allopathic for adults and homeopathy for infect and children. Most of the Dhimal households posses livestock, but they are least concerned about their treatment. The concept of veterinary treatment is almost missing. Utmost some medicinal herbs are mixed in their folder. Dhimals mother

generally give birth to their children at home. But in recent times delivery at hospital is becoming popular due to 'Jaharl-Bhata'. They receive Rs. 300-500 (the aut naries) from govt. at the time of delivery. One laudable fact is that 89.28% of the sample population one aware about the vaccination programmes. The Dhiamls mothers are very particular about taking their children to the school, which serves as the health center where their children are vaccinated. Only 10.71% is still unaware of the vaccination programme.

There are 3 sources of drinking water--Tubewall (Govt.), well (Govt + Personal), underground spring which Dhimals call 'Pathal-jhama'. 57.14% of the sample population are aware of the fact that they should drink pure and safe water from the tubewalls. 7.14% are unaware. But some have to drink reddish-brown coloured, foul-smelling water as they do not have access to tube walls. Some, relatively well to do Dhimals have dug their own wells in their countryard. They judge the purity of their drinking water by its colour and smell only. Most of them are unaware of the unsafe drinking water. Since Dhimals reside in a malaria prone belt, they are very careful about using mosquito nets. Even the poorest of the Dhimals family possess atleastJ mosquito net. Very few families have received mosquito nets from the panchayat. The table depicts 87.14% of the sample population use mosquito net. Surprisingly only 2.85% of sample population have the facility of latrine. They are aware of the fact that latrines can be build by collaboration with the panchayat in liew of RS. 250. But they do not avail this facility because they feel the necessity of having a toilest and secondly the amount of Rs. 250 is exorbitant for them. Cleaning agents include toothpastes, oil, shampoo, soap and detergent. 92.14% of the sample population use one or two kind of cleaning agents. Toothpastes, body soap and shampoo area luxury items for them. They use ash or small tree-branches to clean their teeth and detergents soap to clean their body. Some Dhimals have justified their consumption of alcohol by saying that alcohot is affected to their saying that alcohol is offered to their Gods and then they consume it as blessing. (Prasad).

TABLE-8 : DISTRIBUTION OF HAVING INFORMATION ABOUT CASTE SYSTEM

Age Group	Aware			Unaware		
	M	F.	Total	M	F	Total
Below 18	6	6		4	6	
18-28	13	10		3	7	
28-38	9	11		5	9	
38-48	10	7		2	2	
48-58	10	6		2	2	
58-68	6	0		2	2	
68-above	0	0		0	0	
Total	54(38.57%)	40(28.57%)	94(67.14%)	18(12.85%)	28(20%)	46(32.86%)

The above table shows that out of 140 respondents 94 persons (67.14%) have awareness about their caste status and 46 persons (32.85%) have no idea regarding that matter. Out of 92 persons, 54 are male (38.57%) and 40 are female (28.57%) and among the unconscious persons 18 are male (12.65%) and 28 are female (20%). So, male are more aware than females. Table also shows that conscious persons are distributed more or less equally to the all age groups of respondents. One thing is clear here that even of the conscious persons don't have clear idea about SC, ST and OBC status and the benefits of having the ST status. They only known that their development of community status and bring them in the mainstream of the society. Another thing that has been revealed through this study belongs to OBC category. Most of the people in the community have already been issued the OBC certificate while others have not since the later are reluctant to be grouped under OBC rather they want ST status. The remaining have no idea about OBC.

It is observed that some of the aware of OBC certificates but they want ST Status. Other persons have no clear idea about the caste status.

TABLE-9 : DISTRIBUTION OF HAVING INFORMATION ABOUT GOVT. TESTIMONIALS

Age Group	Voter Card	Caste Certificate	Ration Card		Birth Certificate
			A.P.L.	B.P.L.	
Below 18	0	3	3	15	7
18-28	30	4	5	6	6
28-38	29	0	4	25	0
38-48	21	0	7	13	0
48-58	19	1	5	14	1
58-68	11	0	2	9	0
68-above	0	0	0	0	0
Total	110 (78.57%)	8 (5.71%)	26 (18.57%)	102 (72.86%)	14 (10%)

According to the table this reveals that this community has some specific govt. testimonials like voter card, caste certificate, Ration Card, and Birth Certificates. All among the Dhimals community about 78.57% of people have voter card. So it is understand that people aware about the political system or political party. As well as this community have Ration card. 72.86% people have BPL card. The BPL card holder are given some quantity of rice, sugar etc. But the APL card holders have to buy their commodity. But the percentage is low about 18.57%. Approximately 10% people have the birth certificate. This is very low percentage rather than other two. Main reason of that maximum pregnant woman delivers their child at their homes. Some of the respondents who are able to go to the hospital they get this community. It is clearly reveals that this community is totally unaware about the caste.

TABLE-10 : DISTRIBUTION OF HAVING INFORMATION ABOUT POLITICAL SYSTEM

Age Group	Political System				Political Parties			
	Aware		Unaware		Aware		Unaware	
	M	F	M	F	M	F	M	F
Below18	5	6	5	6	2	4	8	8
18-28	17	15	0	2	9	5	8	12
28-38	11	16	2	4	6	8	7	12
38-48	11	7	1	2	7	4	5	5
48-58	11	8	0	0	6	4	5	4
58-68	9	2	0	0	4	1	5	1
68-above	0	0	0	0	0	0	0	0
Total	64(45.71%)	54(38.57%)	8 (57%)	14 (10%)	34(24.29%)	26(18.57%)	38(27.14%)	42 (30%)

Out of 140 respondent, 118respondents (84.28%) have information about election system, which includes 64 male respondents (45.71%) and 54(38 57%) female respondents. 60 respondents have information about political parties among them are 34 are male and 26 female respondents. So, respondents (57.14%) are unaware about the political system which 38 male and 42 female respondents.

In the age group of below 18 years, only 05 male and 06 female known about election system, 02 male and 04 female know about political parties. 08 male and 08 female persons are unaware about political system.

In the age group of 18-28,17 males and females know about election system 09 male and 05 female know the political parties and 08 males and 12 female unaware about political system.

In the age group of 28-38 years, 11 males and 16 female know about election. 06 males and 08 females know about political parties. 7 male and 12 female unaware about political system.

In the age group of 38-48, 11 males and 7 female know about election system. 7 male and 4 female know about political parties 5 male and 5 female unaware about the political system

In the age group of 48-58, 11 males and 08 female know about election system. 06 male and 04 female know about political parties. 5 male and 4 female unaware about the political system. In the age group of 58-68, 9 males and 2 female know about election system. 4 male and 1 female unaware about the political system. From this table, we can see that most of the persons belonging to age group of 18-28, 28-38, and 38-48 and 48-58 are generally aware about the political system and tend to be most interested in political processes than that of other age groups. No persons belonging to age group of 68 and above are aware political system. It can be ascertained that 82.51% persons are aware about the election system, whereas 41.951% persons are

aware about political parties. Another observation is that, the men in general appear to be better informed about political processes in contrast to the women who are less aware of such things.

TABLE-11 : DISTRIBUTION OF HAVING INFORMATION ABOUT JUDICIAL SYSTEM

Age Group	Traditional System		Panchayat System		Govt. Court	
	M	F	M	F	M	F
Below 18	10	9	9	11	9	8
18-28	12	14	16	16	11	13
28-38	10	16	13	18	10	14
38-48	8	6	11	8	7	5
48-58	8	4	9	8	6	4
58-68	7	2	8	1	6	1
68-above	0	0	0	0	0	0
Total	55(39.29%)	51(36.43%)	66(47.14%)	62(44.29%)	49(35%)	45(32.14%)

In the table judicial system has been divided in three groups–traditional system, Panchayat system and Govt. Court. Traditional system includes solving the dispute by the rival parties themselves in the 'Shalishi Sabha' 106 persons i.e. 75 72% of the total population prefer traditional system. 128 persons i.e. 91.43% like to go to panchayat for solving their problems Still now no persons go to the court to solve their personal problems but 94 i.e. 67.14% persons are aware of the court.

From the table we can conclude that majority of the population believe that majority of the population systems. It is also revealed that the population within the age group of 28-38 are most conscious about the judicial system

TABLE-12 : DISTRIBUTION OF HAVING INFORMATION ABOUT FAMILY PLANNING

Age Group	Known				Unknown	
	Salf-Aware		Aware by others			
	M	F	M	F	M	F
18-28	7	10	6	1	4	6
28-38	8	7	2	3	4	9
38-48	4	4	2	2	6	3
48-58	5	1	1	0	6	6
58-68	3	0	1	0	5	2
68-above	0	0	1	0	0	0
Total	27(21.09%)	12(17.19%)	12(9.38%)	6(4.69%)	25(19.53%)	36(28.12%)

This table depicts that 52.35% of the total respondents are aware of family planning out of which 30.47% are male and 21.88% are female. 47.65% are unaware of this issue out of which 19.53% are male and 28.12% are female.

Among the aware respondents 38.28% are self aware and 14.07% have become aware through others.

From the table it may be well concluded that almost half of the sample population is unaware about family planning which should be a major concern of this financially unstable community where most of the persons belong to below poverty line. It is also observed that female respondents are comparatively less aware than male. But there is a growing concern among the young parents about family planning which is supported by the fact that maximum number of aware respondents belong to the age group of 18-28 years.

TABLE-13 : DISTRIBUTION OF PERSONS ACCORDING TO ADDICTION

Age Group	Addicted													Not Addicted		
	More Than 1			Biri			Khaki			Yu			Total			
	M	F	Total	M	F	Total	M	F	Total	M	F	Total		M	F	Total
Below18	0	0	0	0	0	0	0	0	0	0	1	1	0	11	10	21
18-28	8	2	10	3	0	3	3	0	3	4	1	5	21	9	14	23
28-38	1	2	3	1	2	3	1	0	1	5	2	7	14	2	7	9
38-48	2	1	3	3	1	4	3	1	4	2	1	3	14	2	4	6
48-58	3	0	3	3	4	7	1	0	1	5	0	5	16	2	4	6
58-68	4	0	4	1	1	2	1	0	1	1	0	1	08	0	1	1
68-above	0	0	0	0	0	0	0	0	0	0	0	0	00	0	0	0
Total	18	5	23	11	8	19	9	1	10	17	5	22	74	26	40	66

TOTAL ADDICTED PERSONS = 74

TOTAL ADDICTED MALES = 55 (39.29%)

TOTAL ADDICTED FEMALES = 19 (13.57%)

TOTAL NON-ADDICTED PERSONS = 66

TOTAL NON-ADDICTED MALES = 26 (18.57%)

TOTAL NON-ADDICTED FEMALES = 40 (28.57%)

This tables shows us that the number of addicted and non-addicted persons within the Dhimal community. This table shows that total 74 persons i.e. 52.86% have addiction in intoxicating products and 66 persons (47.14%) have no addiction in these products. It is clear from the above table that they use different types of things for their intoxication.

From the above table it is also clear that out of total 40 respondents 55 males and 19 female are addicted in intoxicating products where as 26 males (18.57% and 40 females (28.57%) do not take any intoxicating products.

TABLE–14 : DISTRIBUTION OF PERSONS RELATING TO LIBRARY AWARENESS

Age Group	Awareness			Unawareness		
	M	F	Total	M	F	Total
Below18	1	4	5	9	8	17
18-28	3	0	3	14	17	31
28-38	0	0	0	13	20	33
38-48	0	0	0	12	9	21
48-58	0	1	1	10	8	18
58-68	0	0	0	9	2	11
68-above	0	0	0	0	0	0
Total	4 (2.86%)	5 (3.57%)	9 (6.43%)	67 (47.86%)	64 (45.71%)	131 (93.57%)

From this table it is revealed that out of 140 respondents only 9 respondents (5.72%) are having awareness regarding library out of which 4 (2.86%) are male and 5 (2..87%) are female. In the age group of below 18 there are only 5 respondents (3.57%) who have the information regarding library out of which 1 (0.711/o)ls male and 4 (2.86%) are female. In the age group of 18-28 years, 3 male respondents (2.14%) are aware of library. One person is aware of the library that is in the age group of 48-58. So it is cleared that out of 140 respondents 131 persons (93.57%) do not have any information relating to library which includes 67 male (47.86%) and 64 female (45.71%) respondents. In the age group of below 18 there are 9 male (6.43%) and 8 female (5.71%) respondents who are totally unaware about library. In the age group of below 18-28 years there are 31 respondents (22.14%) who are ignorant about library out of which 14 are male (10%) and 17 are female (12.14%). In the age group of between 28-38 years 33 respondents (23.57%) don't know what the library is. Among them 13 are male (9.29%) and 20 are female. (14.2 8%). In the age group of 38-48 years there are 21 respondents (15%) who are unaware of library system out of which 12 are male (8.57%) and 9 are female. (6.43%). In the age group of 48-58 years there are 18 respondents (12.86%) are unaware of library out of which 10 (7.14%) are male and 8 (5.72%) are female. In the age group of 58-68 years there are 11 (7.86%) respondents don't have any information regarding library out of which 9 (6.43%) are male and 2 (1.43%) are female The persons of above 68 years are not considered here So it may be concluded that female respondents are much more aware than male regarding library and most of the respondents belong to the age group of below 18 years.

CONCLUSION AND SUGGESTIONS

The study is carried out for the purpose of analysis and assessment of various information needs of Dhimal community so that proper and adequate information

services may be rendered accordingly. The title of the study highlights the word 'disadvantaged'. Dhimals are truly a disadvantaged community. The overall development of a community depends on their socio-economic condition. The elevation of their socio economic status is only possible if most of the persons in a community are literate and are well aware of all the facts regarding their needs.

This study examines various aspects of life of Dhimal community. On the basis of the study, the findings and suggestions are as follows:

1. Above 50% of the population are illiterate among which most of them are women. Many aged people have the desire to learn but there is no such opportunity. So the prime need is to take initiatives to establish the education centres for the women and adult persons. But only the establishment of the centres is not enough, the main aim of the information services is to generate the awareness among the people regarding the education so that they may expose to the lights of literacy.

2. This community is not at all conscious about their health and hygiene. Though there is a hospital in Naxalbari district but they rarely go there. Even they don't consult any doctor. They believe in traditional systems of treatment and on 'Quack'doctors.

   They are totally unaware and indifferent about the sanitary system and purification of drinking water. They think that river's water is purified enough and this is harmless. They are ignorant of water borne and infectious diseases. But they use mosquito net and most of them use oil, soaps etc. Another important aspect which comes under this domain is family planning about which the community is very much ignorant. Only proper information can help them to overcome the ignorance. So necessary steps should be taken to enlighten them about the facts.

3. The demand for being included in the Schedule Tribe has become a burning issue in this community. Each and every person has to have adequate knowledge about the benefits which they can achieve if they acquire the status of schedule tribe. Unless and until every person is well concerned of this issue the movement the outcome is not fruitful. There is ample scope of providing information services to make them concern about the issue.

4. Dhimals are to some extent aware of voting system. There are two parties exist. But the people hardly know which one is doing what for their benefits. They are totally unaware of the fact and the ignorance is much more in women which are not at all desired. So it is necessary to generate awareness among the people regarding this issue.

5. A library plays a major role in fulfilling all the information needs of the community people. But there is no library in this village. Only one rural library is there in Naxalbari. The people are not aware of the library. Only the students who are in school have rarely visited school library.

So there is ample scope of providing various information services for Dhimal Community to elevate their quality of life and their socio economic condition. The first step of expanding the horizon of information services is to establish a library which may act as an information hub where the various information needs may be fulfilled. From the study it becomes crystal clear that proper information services can only help to remove the darkness of illiteracy and ignorance and also help in them to lead a better life by gradually developing their educational, social and economical condition.

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TOTAL QUALITY MANAGEMENT IN COLLEGE LIBRARIES WITH SPECIAL REFERENCE TO BAGNAN COLLEGE LIBRARY

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Abstract : Total Quality Management (TQM) is the integration of all functions and process with in an organization in order to achieve continuous improvement of the quality of goods and services. TQM shows how Total Quality Management can contribute to Improved performance and effectiveness. This paper focuses on how to implement TQM in college library so as to improve the quality of library services through the use of different elements of TQM, ultimately fulfilling the user expectations, developing staff and user commitment and surely generating value for a college library.

1. INTRODUCTION

The Management of Library or Information Centre is accomplished by a combination of basic management functions, roles and skills. The managerial task includes the coordination of human, information, technical and financial resources towards accomplishing organizational goals and objectives. The scientific approach lies in decision making, planning and appropriate use of the technology. A Librarian or information professional working in a one-man-bank situation uses management skills to procure funds for the library, to decide upon its future direction and to plan for new services, and to communicate with management and other individuals with in the organization in order to achieve their library's goals.

2. WHAT IS TQM

TQM has been defined in a variety of ways, meaning a quest for excellence, creating the right attitudes and controls to make prevention of defects possible and optimize customer satisfaction by increased efficiency and effectiveness.

TQM is "a system of continuous improvement employing participative management and centered on the needs of users". [Barnard- 1993]

Zaira & Jurow (1991) defines it as "TQM is the combination of socio-economic and technical process towards doing the right things (externally), everything right (internally) first time and all the time, with economic viability considered at each stage of each process".

S. Thakur define the TQM is a concept which make quality the responsibility of all people within an organization. All the persons involved are expected to contribute to the overall improvement of quality. TQM is the preferred method to increase the user satisfaction. It reduces the defects of the organization and increases the productivity.

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3. THE CONCEPT OF TQM

TQM is a way of managing to improve the effectiveness, efficiency, flexibility and competitiveness of an organization as a whole and it involves whole organization getting organized and committed to quality in each department, each activity and each person at each level. For the success of TQM effecting training, effective implementation and executive involvement is essential.

TQM is the foundation for activities, which include:

i.   Commitment by top management and all employees.

ii.   Meeting users requirements

iii. Reducing time of development cycle

iv.   Improvement teams

v.   To become user driven rather than self focused

vi   External and internal alignment

vii   Systems to facilitate improvement

viii. Total involvement, continuous improvement and leadership commitment

ix.   Recognition and celebration

x.   Challenging quantified goals and benchmarking

xi   Focus on Processes

xii   Specific incorporation in strategic planning

This shows that TQM must be practiced in all activities, by all personnel, manufacturing, marketing, Engineering, Research & development, sales, purchasing, human resources, etc.

4. ELEMENTS OF TQM

Following an international conference in 1990, the conference Board summarized the key issues and terminology related to TQM

4.1 Quality

Quality is often used synonymously with excellence. However, for proper quality management, defining quality and its measurement are essential.

Gravin (1998) identified five approaches to define quality:

i.   Transcendent approach (Quality always exists)

ii.   Product based approach (product meeting high quality standard)

iii. User based approach (quality to meet user's requirements)

iv.   Manufacturing based approach

v.   Value-based approach

In this context of information systems, quality pertains to–

i.   Performance of the system

ii.   Quality and quality of document store,

iii. Quality of information products judged interms of defined norms or criteria,

iv. User satisfaction in terms of value for money spent (cost-benefit) and value for information context (cost-effectiveness). Therefore, the Quality management strategies should integrate these various approaches for achieving improved quality information services.

Performance of the Information System mainly related to: -

a. accuracy of the services,

b. adequacy of and need-based services,

c timeliness of the services,

d. Quality of information products.

The information products in LIS can be information abstracts, Bibliographies, indexes, current Awareness Bulletins etc. These products should be produced according to set norms or criteria, (like–following–CCF, Circulation before the information becomes obsolete)

User based approach lies on the idea that quality lies in the eyes of the holder and that the customer or user is the ultimate quality judge.

4.2 Quality Control

Tannock (1992) states that quality control "consists merely of the operational techniques and activities that are used to fulfill requirements for quality, usually interpreted to mean conference to the required specifications"

4.3 Quality assurance

Carley and Waldran (1984) define quality Assurance as "Planned, deliberate actions or activities investigated and carried out with the intent and purpose of maintaining and improving the quality of learning for participants".

5. THE PRINCIPLES OF TQM TO ENHANCE THE LIBRARY SERVICES

Library can benefit from the principles of TQM as suggested by Sirkin (1993)–

i. Make a Library Brochure

ii. Library orientation

iii Implement interlibrary loan facilities

iv. Smooth acquisition procedure

v. Technology use for easy information retrieval

vi. Training and development of staff

vii. Motivation

viii. User based information services

ix. Creates service brochures

x. Conduct a user survey about library services

xi. Improve signage

xii. Change hours of operation

xiii. Use flexibility in staff assignment

xiv. Ask vendors to give product demonstrations

xv. Give a new staff a through orientation

xvi. Improve the physical layout of the library

xvii. Develop an active outreach program.

xviii Publicize new or changed services.

xix. Develop user and staff training materials

xx. Target services to specific groups

xxi. Offer electronic document statement

xxii. Smile

Librarian must find out what readers want and concentrate upon providing it.

6. WHY TQM IN ACADEMIC LIBRARY

Over many centuries libraries have adopted many different management principles from business, industry, religion, and government. A library is a business that must be operated efficiently and well. A major difference is that most libraries are non-profit organization. Management of vast amounts of information stored in different formats-printed, electronic, audio, video-requires use of the most modern management techniques.

Today technologies have changed our social and economic life. In the workplace methodologies change, people work at home or on the web with flexible timetables are emerging in different fields. The most important stakeholders in the library are customers, the providers of subsidies, staff, and other libraries. These stakeholders are interested, for various reasons, in the introduction of TQM. The introduction of TQM makes great demands on the staff.

Mainly the specific objectives of the TQM in any academic library–

i. Understand the concept of quality, Quality control, Quality assurance, TQM.

ii. Review the Quality assurance System in academic library.

iii. Examine the application of TQM to Library and Information Science (LIC) sector, with particular reference to college libraries.

iv. Discuss the criteria for Quality assurance in providing quality Information services.

7. MANAGING QUALITY IN AN ACADEMIC LIBRARY

The method of TQM represents a new age in the management of an organization. Its elements such as participating management, the personnel training and the responsible service to the users are views that the libraries are already driven by As a result of this, the libraries are up to improve these principles, which already have been valued positively by them and put them partially in practices. Many college libraries have embarked on plans for

implementing quality-related philosophies such as TQM. It is well known that TQM is a management method that libraries can benefit from it in several ways.

In each and every college the library plays key role for development of professors, students, researchers in terms of knowledge navigator. Today in the information age the information explosion is very fast. Every movement new information are produced, and it is difficult for the college library should focus on providing the best services possible, and be willing to change to serve its users.

In a service organization like a college library the user satisfaction means fulfilling expectations.

8. BENEFITS OF TQM FOR ACADEMIC LIBRARIES

i. TQM reduces bureaucracy, empower staff and create a team base culture, which is keenly desired for academic library specially for college library.

ii. TQM help us for ganging users needs and expectations in an appropriate way.

iii. TQM help us to maintain qualitative library and information services.

iv. TQM helps in libraries improves the image of the library staff and helps in public relation.

v. TQM helps for development the qualitative library collections.

vi TQM helps to detect defects and focuses on practices that identify potential defects to prevent them from occurring.

vii. Quality of service ensures courtesy, attitude, helpfulness, and treatment of users with respect.

viii Any positive actions can be taken with the use of common sense, general knowledge, public relation skill, ready with and an intention for overcoming any difficulty that may arise.

9. TOOLS AND TECHNIQUES OF TQM IN COLLEGE LIBRARIES

9.1 STEPS IN TQM

If a library wants to implement TQM the following steps should be taken–

Phase I   : Taking decision in favour of TQM

              Steps 1 – Exploration

              Steps 2 – Decision to implement TQM

Phase II : Organizing for quality (prepare)

              Steps 3 – Leadership Planning

              a. Organizational Behaviour

              b. Understanding Users

              c. Vision and guiding principles

Phase III : (Start up)

        Steps 4 – Identifying services, users

        Steps 5 – User's survey

        Steps 6 – Identifying and measuring critical processes

        Steps 7 – Initial pilot project Team

        Steps 8 – Training of team members

Phase IV : (Evaluation and Expansion)

        Steps 9 – Creating a TQM strategic plan

        Steps 10 – Divisional/departmental planning

9.2

9.2.1. Flow Charts

It is one of the simplest methods of describing the complete operation steps by step

Symbols used for the Flow Charts

a. Operation occurs when an object is intentionally changed in any of its physical or chemical characteristics- an operation adds value to the product.

b. Transportation occurs when an object or a person moves from one location to another, excepts when the movement is part of the operation.

c. Inspection occurs when an object is verified for quality or quality in any of its characteristics.

d. Delay occurs when an object or a person waits for the future action

e. Storage occurs when an object is protected against unauthorized removal

9.2.2 Histograms

Histograms are visual representation of the spread or distribution of data. They are also called ' frequency distribution'. In histograms the information is represented by a series of rectangles or bars which are proportional to groups of data. Histograms also illustrate the various measures of central tendency, the mean (average), mode, and median. So, histogram can show how the data are spread out or dispersed. It may also suggest the ways of keeping a process in control. To make a histogram one draws a grid, defines a target for intended performance and then marks the actual performance level.

9.2.3 Run Charts

A run chart is a line graph which illustrates how a process changes over a period of time. It is an effective tool for presenting data.

10. TOTAL QUALITY MANAGEMENT IN BAGNAN COLLEGE LIBRARY

Bagnan college is a non government grant-in-aid College affiliated to the University of Calcutta (C U). It was established in July 1958 and recognized by the UGC under section 2(f) right from the beginning. The Central Library of this college has over 25000 books, and the students are provided with both reading and lending facilities The students of the Morning Section of the college can access the library from 8-10 AM, the students of the Day Section can use the facilities from 10-4 PM, while the students of the Evening Section have the opportunity to access the library between 2-7 PM on all working days. Total quality management is an approach in Bagnan College Library takes for improving its performance on systematic and continuous basis. This is achieved by involving all employees throughout the organization in satisfying all requirements of every users. Quality management is the basis for library management in general. Such principles of TQM as meeting the users needs, exact assessment, continuous improvement, teamwork, and enthusiasm of the leaders are typical for library service

11. CONCLUSION & SUGGESTION

Quality is a very important tool for application of TQM in college libraries which can be measured, managed and improved by measuring role of customer satisfaction and culture which depends to a large extent on leader behaviour towards staff. The whole process of TQM aims at introducing a new cultural change which is likely to bring about greater participation of the employee to achieve the goals and objects of the college library.

Based on the above discussion and observation following suggestions are made for the implementation of quality on college libraries.

- a. Quality assurance of Library and Information system should be part of the Quality assurance of university TQM project.
- b. There is a need to develop standard/norms for assessing quality of information services with particular reference of college libraries.
- c. There is need to evolve methodologies and mechanism for improvement of quality information services;
- d. More funds to be allocated for studying the quality of information services on project basis
- e. Training of staff members in providing quality information services

In a TQM offers a wide range of opportunities, both analytical and experimental, in academic as well as industrial framework. It has been recognized and proved to be a successful management philosophy having a long potential for growth and development The application of this tool to the service sectors like Library Information System small or big, handling various types of information, in these days of uncontrolled information flow, may encounter a number of problems, starting from design stage to dissemination stage. TQM proves to be an excellent tool for minimizing these problems and to provide Information Services more effectively.

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KOLKATA BOOK FAIR & LITTLE MAGAZINE : IMPACT ON LIBRARY USERS

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Abstract : This article discusses about the Kolkata Book Fair, 2009 and the Little Magazine which is an important part of the Book Fair. It describes about the Little Magazine which plays a vital role in human development and mainly lays an impact on the reading habits of library users. It also looks to the little magazine as a medium for the promotion of Bengali literature and culture.

1. INTRODUCTION

A fair is defined as any of various shows or conventions on a particular theme, typically consisting of booths, educational exhibits, vendors, etc.: usually in combination.[1] **Kolkata Book Fair,** previously called **The Calcutta Book Fair** and officially **Kolkata Boi Mela** in romanized Bengali is an important part of many people related to the book industry. It is a winter fair and the largest book fair all over Asia. It is the world's third largest annual conglomeration of books only after the Frankfurt Book Fair and London Book Fair. With a total footfall of over 2 million people, it is world's largest book fair by attendance. The book fair was started on a small scale in 1976 by the Calcutta Publishers and Booksellers Guild. Slowly it grew in shape and size and mostly in popularity. The book fair was started to meet the growing public demand for books, but a relative lack of bookshops in Kolkata[3]. A large part of the intellectuals, authors, artists, poets, painters, editors, journalists, and book lovers are benefitted from the book fair. Book fair is the pavilion for not only books but also many periodicals, magazines, paintings, non-book materials, newspapers, media, food stalls etc. Among them **Little magazines** possess a very important place. They are rather called the part and parcel of Kolkata Book Fair.

2. KOLKATA BOOK FAIR-2009

Kolkata Book Fair has recently celebrated its 33rd year in 2009 from 28th January to 8th February '09. The venue for the fair was Milan Mela Prangan, near Science City on E.M.Bypass. It covered an area of 300000 sq. ft. (Approx). The focal theme and partner country was Scotland and Honoured country was United States of America. Starting from the 1990s, the book fair has been themed annually, typically on a country—on the lines of the *Guest of Honour* at the Frankfurt Book Fair. The theme country embassy is typically given a stall at the fairground centre, and many book shops theme their collections based on the fair theme. The temporary gates of the fair are designed according to the theme, on the basis of a design competition among Kolkata students. Eminent personalities from the theme countries like France in 2005, Spain in 2006,

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Australia in 2007, USA in 2008 and Scotland in 2009 participated in the fair. This year the fair was inaugurated by Alexander McCall Smith an eminent writer and Emeritus Professor of Medical Law at the University of Edinburgh, Scotland on 27th January 2009 at 4.30p.m[3]. Many foreign countries also participates in the book fair and this gives it an international status. Book lovers from all over India and abroad participates in it enthusiastically. It's a place of trade for publishers and book sellers of all sizes. Its also a place of interest for upcoming talents, new and budding artists and authors etc who get recognition for their work. Kolkata Book Fair has always been a special place for **Little magazines** which are an integral part of the history of Bengali literature.

3. LITTLE MAGAZINE- WHAT IS IT?

Little Magazine is an independent literary magazine that publishes the work of relatively unknown, usually experimental writers. A **literary magazine** is a periodical devoted to literature in a broad sense. Literary magazines usually publish short stories, poetry and essays along with literary criticism, book reviews, biographical profiles of authors, interviews and letters. Literary magazines are often called **literary journals,** or **little magazines,** which is not meant as a pejorative but instead as a contrast with larger commercially oriented magazines[4].

Literary magazines first began to appear in the early part of the 19th century, mirroring an overall rise in the number of books, magazines and scholarly journals being published at that time. In their own quiet and unassuming ways, little magazines try to provide some famous and mostly not so famous yet talented writers and their connoisseurs a common platform to exchange their views, spread the wings of their imagination and raise their voice[2].

As the name suggests, little magazines are literally little in many respect, but the effort behind them have never been too little and neither have they been short of imagination and inspiration. The relevance of little magazines cannot be gauged by the size of their readership but from the fact that little magazines are epitomes of loud protests against commercial necessity of zipping everything between two cover pages[2].

Every year, the little magazine pavilion in the 'Boi Mela' (book fair) attracts a large number of people, specially those who want to know about the new trends in writing and experimentations on style and content, something such publications have always been encouraging. It's a ground for the new talents to show their zeal. "Those associated with little magazines look forward to the book fair throughout the year. Many such publications bring out special Boi Mela editions. The fair also gives them a chance to interact with readers and hold discussions with writers and editors of other such magazines," said Sandip Datta, who runs the 'Little Magazine Library', an archive for such periodicals, in Kolkata. Datta estimates that some 750 little magazines are brought out from all over West Bengal, over 150 of which are published from Kolkata alone[6].

4. LITTLE MAGAZINE – PUBLICATIONS IN BENGALI LANGUAGE

Sl. No.	District	No. of Publications
1.	24 Parganas North	68
2.	24 Parganas South	65
3.	Bankura	24
4.	Birbum	24
5.	Burdwan	47
6	Coochbehar	9
7.	Darjeeling	11
8.	Dinajpur North	6
9.	Dinajpur South	7
10.	Hooghly	60
11.	Howrah	43
12.	Jalpaiguri	13
13.	Kolkata	372
14.	Malda	11
15.	Midnapore	63
16.	Murshidabad	13
17.	Nadia	94
18.	Purulia	22

Table-1: District-wise publication in West Bengal (arranged alphabetically)[2]

Sl. No.	Name of the State	No. of Publications
1.	Andaman And Nicobar Islands	2
2.	Assam	22
3.	Bihar	14
4.	Jharkhand	6
5.	Madhya Pradesh	4
6.	Maharashtra	3
7	Meghalaya	2
8.	New Delhi	8
9.	Tripura	7
10.	Uttar Pradesh	7

Table-2 : Publications in the Rest of India (arranged alphabetically)[2]

Besides this the little magazines published in Bengali outside India, mainly from Dhaka is 31 in number approximately.

So the above tables and data clearly show the immense popularity of these magazines among the Bengali culture and community.

5. FEW LITTLE MAGAZINES

Sl. No.	Name of the magazine	Address	Editor	Since	Frequency	Category
1.	Abhibhab	Jagannathpur, P.O. Ramkrishnapalli (Sonarpur) Dist-South 24Pgs Pin 743 369	Samsul Aalam	1999	Quarterly	Bengali Literature and culture
2.	Abakhan (Reg)	64 Nabarun Palli, Sodepur, Dist- North 24Pgs. Pin 743 212	Radhu Goswami	1971	Quarterly	Bengali Literature
3	Raamkinkar	Kenduyadihi, Sahanpalli, Dist-Bankura, Pin-722 102	Swarup Chandra	1990	Yearly	Poetry
4.	Saisab	Aarra Kalinagar, Aarra, Durgapur, Dist-Burdwan Pin 713 212	Tapaas-hamoy Pal	1993	Half-yearly	Children's literature
5.	Subhech-chaa	Buddhigram, Dist. Birbhum Pin 731 244	Ali Aahsan	1990	Monthly	Bengali literature
6	Graaphitti	2/A,Tipu Sultan Road, Kolkata, Pin- 700 026	Suvankar Das	1987	Monthly	Bengali language and literature
7.	Uttar-baangla	19, Purba Vivekananda Palli, Raja Rammohan Roy Road, P.O Rabindra Sarani, Siliguri, Dist- Darjeeling Pin 734 406	Swapan Kumar Biswas	1979	Weekly	Bengali literature
8	Mauni	Uttar Simla, Chuchura R. S. Dist- Hooghly Pin 712 102	Haradhon Bandho-padhyay	1996	Quarterly	Bengali literature
9.	Prabriti	15, Nittyadhan Mukherjee Road, Howrah, Pin 711 101	Suranjan Biswas	1988	Quarterly	Bengali literature
10	Banmahal	Babupara, Alipurduar Dist-Jalpaiguri	Jagannath Biswas	1980	Quarterly	Bengali literature and environment

Sl. No.	Name of the magazine	Address	Editor	Since	Frequency	Category
11.	Saahltya Nabalipi	Siliguri Road, Dist-Coochbehar Pin 736 101	Gaurirani Saha	1972	Monthly	Bengali literature
12.	Ei Samayer Swaralipi	Purba Deshbandhu Para,Jhaljhaliya, Dist- Malda, Pin 732 102	Ashok Sen	1994	Quarterly	Short stories in Bengali
13	Anubartan	Datan, Dist-Midnapore Pin 721 826	Rameswar Panigrahi	1994	Yearly	Bengali literature
14	Janmadin	11/1/A, Balulbona Road, Baharampur, Dist-Murshidabad	Subir Ghosh, Shyamal Roy	1997	Quarterly	Bengali literature and culture
15.	Ekaaler Bodhisattwa	Lalpur, Chakdaha Dist.- Nadia, Pin 741 111	Mandira Roy	1982	Quarterly	Poetry
16.	Anreeju	Chelimaya Dist-Purulia	Subhas Roy	1996	Quarterly	Poetry, Folk literature
17.	Chayan	College Para, Raigunj, Dist-North Dinajpur	Suren Chaudhuri, Arun Chakrabarti	1978	Quarterly	Bengali literature
18	Naatya-chintaa	Nattyathirtha, Surendraranjan Park, Balurghat, Dist-South, Dinajpur, Pin 733 101	Pranab Chakrabarti	1991	Quarterly	Drama

Little Magazines Published from West Bengal (Selected one from each district)[2]

6. LITTLE MAGAZINE–MOTTO BEHIND THE PUBLICATION

A little magazine usually begins with the object of publishing literary work of some artistic merit that is unacceptable to commercial magazines for any one or all of three reasons-1) the writer is unknown and therefore not a good risk; 2) the work itself is unconventional or experimental in form; or 3) it violates one of several popular notions of moral, social, or aesthetic behaviour[5].

The main motto behind the publication is to give a chance to the amateur talents and have some recognition of the place from where it is published. Also it becomes a platform to deliver new ideas, new thoughts and an easy mode of raising one's voice over various issues. It focuses on the various aspects of human life. It is a pavilion where the budding talents get a chance to meet and discuss related issues with the experts in their fields. They are published on a small scale without much concern for commercial gains—to reach their readers. These magazines also try to reach the hearts of their

readers to deliver some message to them via their work. Many well recognized authors have come up from these little magazines. Many a times these magazines promote several social issues useful for the human life like eye donation after death, blood donation etc. But most of the times it is out of love and interest in Bengali literature and culture that these magazines are published. They keep the Bengali literature alive and help in the upliftment of the society

7. LITTLE MAGAZINE AND ITS USE IN THE LIBRARIES

Little magazines being quite cheap and carrying important messages for the society are an asset mainly for the public libraries. Also sometimes they are subscribed by the academic libraries as they are the places where the fresh minds have their origin. Many a times they are donated freely to the libraries as it is the easiest way to reach the readers. Public libraries often subscribe or are donated with loads of such little magazines from various areas. They being very cheap can be easily accepted and made available. Also there is no extra cost for binding and maintenance as their contents are limited and can be finished by any reader within a short time. Their acceptability is maximum when newly released and loses glamour after a few months except in a very few cases. So they can be weeded out after a year or so and needs no binding.

8. ROLE OF LITTLE MAGAZINE IN DEVELOPING READING HABITS AMONG LIBRARY USERS

Public libraries being a place of readers from different sectors irrespective of caste, creed, religion, sex etc is the best place for these little magazines. These magazines are often just for entertainment and get their best readers in public libraries. They also develop the reading habits of the users as they attract them the most. Non- readers of Bengali literature often becomes avid readers with the help of these magazines. They convey a message to the society and help the new talents to show their calibre and so are well accepted by many readers.

Academic libraries also contain many of these magazines in addition to the text-books, periodicals, reference books etc. Some libraries keep a separate zone for these little magazines where readers visit to get out of their boredom. They are a place of relaxation and entertainment for the academicians and students. They also help to improve their reading habits and simultaneously help to generate new ideas in their mind. The young generation gets a better view of the society and can well understand the Bengali literature and culture through these magazines. They also get an opportunity to express their views and ideas freely and so are easily attracted towards these magazines.

9. BARRIERS FACED BY LITTLE MAGAZINES

Every good effort has to face hurdles and little magazines are no exception. There are a number of barriers these magazines have to cross before being on the hands of their readers. They often face tremendous criticism and lose

their enthusiasm in publication. The young talents who may be writing something for the first time often are discouraged with heart breaking remarks. They thus lose all hope and gets lost forever. Financial problems also prevent these magazines sometimes from getting published at regular intervals. Due to less publicity these magazines often don't get readers. Many are focused towards the eminent publishers and their works and very little importance is achieved by these magazines. In the Kolkata Book Fair too in spite of getting a separate pavilion these magazines often cannot reach to the readers as people are more attracted towards the big publication houses and works of eminent writers. The budding talents are mostly left unnoticed.

Also many people think it wastage of time and money to go through these little magazines. They rather prefer well recognized works in Bengali literature. The little magazines are looked upon as works of low quality. Some are of the view that those who don't get any publisher to publish their works make up with these little magazines. So they are definitely erroneous and don't deserve a place among the educated society. These beliefs and views keep the little magazines at the backstage.

10. FEW SUGGESTIONS

Little magazines are a part of the society and not an alien must be made clear at the earnest among the individuals in the society. Everyone must join hands to promote these magazines from their own areas. The learned men should understand that it is through these magazines that they can promote their culture and tradition. Bengali literature and culture which is losing its glamour at various places throughout the world can be made lively through these little magazines. The young talents must be praised for their efforts and not demoralized. Prizes for the best budding writers of the little magazines must be arranged by the Book fair authority to encourage them. Big publishers must help these little magazines financially. Financial help must also be provided by the Publishers and Booksellers Guild to help to continue the magazine's publication. Libraries must accept these magazines and keep separate racks for them. The users must be made aware by the librarian about these magazines. Also the display boards in the libraries can promote the availability of these magazines.

11. CONCLUSION

Kolkata Book Fair is full of youthful exuberance and hopes It is the élan coming out of the vivacious West Bengal soil looking forward not to skyscrapers, but to a better cultural life of the State through programmes of popularising books. Little magazines occupy a very important place in this book fair. It is a platform to reach the masses and make the people of the world aware of the Bengali literature and culture. Proper care must be taken by everyone so that this small endeavour to promote our culture never becomes extinct. It must take heights in the near future. Long live Kolkata Book Fair, the Little Magazines and of course the Libraries.

12. ACKNOWLEDGEMENT

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   (Retrieved on: 17-06-09)

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4. Little Magazine-Definition from Answers.com: URL: http://www.answers.com/topic/literary-magazine (Retrieved on: 22-06-09)

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DESIGNING A MODEL OF PLANT CLONING INFORMATION SYSTEM IN KOLKATA

MOM CHATTOPADHYAY*

Jagadish Chandra Basu Sikshak Sikhan Mahavidyalaya

Keywords: Plant cloning, Information System

From the primitive day of human civilization to the present day information has always been a factor of growth and development and improvement in living standards. The **information** era has thrown up many challenges not only for libraries but also for librarians. Especially over the last twenty-five years the librarians and information professionals have come across many problems, for which information and documentation services were often found to inadequate and could not provide scientific researcher mainly with the data they needed promptly and in a usable form. These problems of information gap have been identified and discussed several times. This organized processing, transmission and dissemination of information in accordance with user needs is "INFORMATION SYSTEM". Only information technology can properly handle this huge information by means of proper procedures and equipments and guidelines, by means of an information system. We librarian thus will be able to follow our basic motto "RIGHT INFORMATION TO THE RIGHT PERSON AT RIGHT TIME. Thus Information system plays a very important role for bringing information closer to users and solves problems of information handling and services.

In this connection we must know about UNESCO, this organization believes that libraries of all kinds are probably the best agencies to maintain a free flow of ideas and **information** and create a climate of mutual understanding and friendliness by creating INFORMATION SYSTEM on respective fields.

UNISIST an organ of UNESCO stand for the establishment of world science information has an international program aimed at the facilitation of scientific information especially in third world countries by means of creation of various information systems in all possible fields of study to cope up with user demands. Some of the renowned information systems are "environmental information system", Biotechnology information system, Audit information system etc.to fulfill the demand of the users of those field.

With the advent of world wide research in biotechnology there is need for a critical study on the growth, structure and development of biotechnology and its different parts such as plant and animal cloning, cell culture, tissue culture information system with respect to our country. It is also true for country like India, especially after independence with the need of rapid industrialization. After independence Government of India developed CSIR in order to cope up with the increasing information need of the newly born state. UNESCO rather

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* Librarian and also ex-student, DLIS, CU.

UNISIST played an important role in this respect. It provides all kind of assistantship to CSIR to develop different information system on technology fields. For the Biotechnology information system in India CSIR directly requested UNESCO to chalk out the outline. Later during 1986 Biotechnology information system developed under DBT (department of biotechnology).

The biotechnology has many sub fields, one of this is cloning .CLONE and CLONING are the burning issues of this time. A number of research works are going on in this field .As a result huge numbers of documents are created. They need proper collection, organization and dissemination so that right information can reach to the right person at right time. So INFORMATION SYSTEM on this field is an urgent demand. For the current work a segment of the whole cloning scenario "PLANT CLONING" is chosen. Its different components i.e. institutional, human, documentary sources will be studied with respect to the geographical area "KOLKATA". It is not a study of the subject as a whole. Because of time constraints four pioneering institutes is studied and information will be collected and a model information system is to be designed. For methodology survey method was chosen mainly.

Anyway before designing such system it should be better to highlight the exiting systems in the said field or its related ones in our country. Some of these are

1. COUNCIL OF SCIENTIFIC RESEARCH

2. NATIONAL INFORMATION SYSTEM FOR SCIENCE AND TECHNOLOGY

3. DEPARTMENT OF BIOTECHNOLOGY:

Subjects Covered	Information System
i) Genetic Engineering	Indian institute of Science, Bangalore Bose Institute, Kolkata Madurai Kamaraj University, Madurai Jawaharlal Nehru
ii) Virology & Animal culture	Poona University, Pune
iii) Photosynthesis, Plant tissue culture, plant molecular biology	Indian agriculture research institute, New Delhi
iv) Molecular Biology	Center for cellular & molecular biology
v) Immunology	National Institute of Immunology
vi) Enzyme engineering, Bioprocess Engineering	Institute of Microbial technology, Delhi

4. DEPARTMENT OF AGRICULTURE RESEARCH AND EDUCATION

The DARE is a department under the ministry of agriculture concerned with teaching and research, technology transfer and International co-operation in agriculture and allied disciplines. The Indian Council of Agricultural Research (ICAR) is an autonomous body forming forms the major component of the department and is devoted to R&D works and technology transfer in this disciplines.-'

A list of Indian universities, research centers and government bodies providing plant cloning information services are given below:

1) All India Bio-tech Association

2) Indian Ministry of food processing Industries

3) The Department of Agriculture and cooperation

4) Center for Management in agriculture, at IIM A

5) Indian Institute of Science

6) Biotech Consortium India Limited

7) BTIS

8) National Academy of Agricultural Science

9) Indian association for cultivation of Science

10) Agriculture and process food products.

Beside these 150 Universities of India is providing information services on Plant Cloning. In order to design model of plant cloning information system in Kolkata a brief knowledge regarding plant cloning is required.

A cell, group of cells, or organism that is descended from and genetically identical to a single common ancestor, such as a bacterial colony whose members arose from a single original cell are called clone. An organism descended asexually from a single ancestor, such as a plant produced by layering or a polyp produced by budding is called as plant cloning.

The plant cloning process is described very briefly by means of a schematic diagram furnished below:

The Process of Plant Cloning
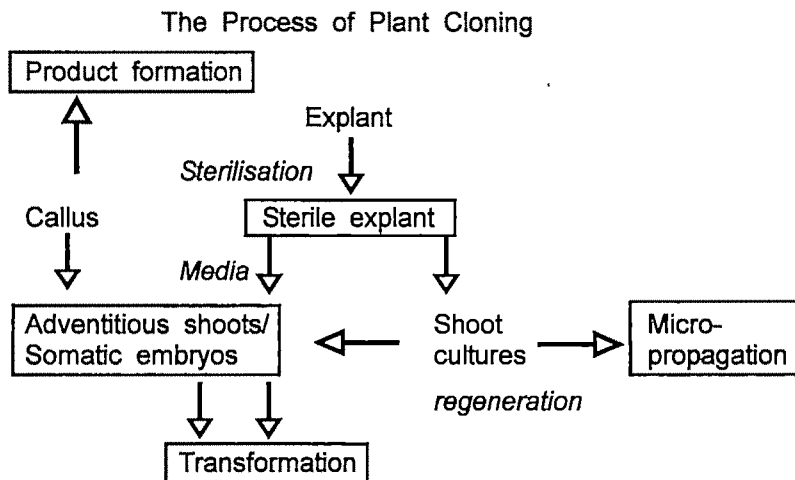
Now information is collected in three ways to design an information system-Documentary sources, Institutional Sources and experts contributions

1. DOCUMENTARY SOURCES

Information collected on Plant Cloning in Kolkata from 2002 to 2006:

(All information are arranged under four heads: **AGRICULTURE, HORTICULTURE, FLORICULTURE, MEDICINAL PLANTS**)

Since, Plant cloning is a technique or method or process hence the subject is very volatile in nature. That is why it is mostly consisting of primary / nascent sources of information. The documentary information collected on plant cloning are mostly research articles published in different journals.

Information on plant cloning in Kolkata for the year 2002 :—

Agriculture	Horticulture	Floricu-lture	Medicinal Plants
Chattopadhyay (S) et al. Tissue specific over expression of Gene encoding GSH biosynthetic pathway's enzyme in transgenic phyllanthus amarus. SXL I142. Kolkata, 2002. Das (S) et al, Efficiency of Mannose Binding Plant Lectins in Controlling a Homopteran Insect, The Red Cotton Bug,. J. Agri. Food Chem, 50, 2002, P 6775- 6779.	Das (G) and Sen Mandi(S). Jounal of Rubber Research, Over-exploitation Associated Changes in Free Radicals and its Scavengers in *Hevea bresiliensis.* 5 (1) 2002. P 28-40		Pal (A) Role of biotechnology in the improvement of bioactive compound with special reference to the medicinal plants. Recent trends in species medicinal plants research APC Publications New delhi, 2002, P106-121.
Das(S). Binding of garlic *(Albumsativum)* leaf lection to the gut receptors of homopteran pests is correlated toits insecticidal activity Plant Science, 161(5). 2002 P 1025-1033.			
Gangopadhyay (G) et al. Somatic Embryogenesis in Indian Spinach *(Beta palonga)* Plant Cellbiotechnology and molecularbiology 3 (1&2) 2002. P. 59-64(a)			

Agriculture	Horticulture	Floricu- lture	Medicinal Plants
Gangopadhyay (G). Regeneration in chen- opodium album via organogenesis and somatic embryogene- sis. Plant Cell biotec- hnology and molec- ular biology 3 (3&4) 2000, P143-146.			
Pal (A) Isozymes analysis of *populus deltoidea* and a hybridpopular for the genetic stability inthe culture regenerated plants, J. Trop. For Scil2, 2002. P 697- 706(a).			

Remarks : Hence, from the above discussion it can be firmly concluded that in the year 2002 research trend was focused on Agriculture.

Information collected in year 2003:

Information on plant cloning in Kolkata for the year 2003 —

Agriculture	Horticulture	Floric- ulture	Medicinal Plants
Gangopadhya (G). et al Este- rase as a marker to study the genetic fidelity of micropro- pagated banana. Biologia Plantarum 47(3).2003. P.421- 424.	Gangopadhyay(G) et al Micropropagation of Tectona grandis: asse- ssment of genetic fidelity. Biologic Plantarum 46(3) 2003. P.459-461.		
Jha (S) et al. liomoto-v-depe- ndent DNA transfer from plants to a soil bacterium under lab-oratory conditions· implicati-ons in evolution and horizontal gene transfer. Res. Aug: 12 (4). 2003 P. 425- 37 12885164 [Cited. 2]			

Agriculture	Horticulture	Floric-ulture	Medicinal Plants
Jha, (Sumita). and Jha, (Timir). Organogenesis and regenera-tion from pigmented callus in Camellia sinensis (L.) O. Kuntze cv. Nandadevi, an elite Darjeeling tea clone. Bio One. 2003. P. 207-212.			
Lahiri ajumdar (A) et al. L-myo-Inositol 1-Phosphate Synthase from Plant Sources' Characte-ristics of the Chloroplasticand Cytosolic Enzymes. Plant Physiol. 115.2003 P.727-736.			
Pal (A) Diffrential DNA endoredu-plication and protein profile during cotyledon ontogeny of Vigna radiata. J. Plant Biochem & Biotech. 12. 2003. P. 11-18.			

Remarks: Hence, from the above discussion it can be firmly concluded that in the year 2003 research trend was focused on Agriculture

Information collected in year 2004 :—

Agriculture	Horticulture	Floric-ulture	Medicinal Plants
Das(S). The potential of transgenic chickpeas for pest control and possible effects on non-target arthropods. Crop Protection 23. 2004, P. 923-938.			Chattopadhyay, (S) et al. Genetic improvement of tra-ditionally used Indian medi-cinal plants laboratory. Paper of Indian Institute of Che-mical Biology. 2004 (unpub lished till date)
Das(S). Identification of receptors responsible for binding of the mannose specific lectin to the gut epithelial membrane of the target insects. Glycoconjug-ate J. 29. 2004 P. 525-530.			

Agriculture	Horticulture	Floric-ulture	Medicinal Plants
Das(S). The interaction of Allium sativum leaflectin with a chaperonin group of unique receptor protein isol-ated from a bacterial end-osymbiont of the mustard aphid. J. Biol. Chem. 279 (22). 2004. P.23782-23789.			
Gangopadhyay (Gourab). et al.luffa sponge–aunique matrix for tissue culture o f philodendron. Current Scie-nce vol86, No 2,25, Jan 04.			
Gangopadhyay (Gourab). Trichomes: their diversity, distribution and density inacclimatization of teak (Tectona grandisL.) Plants grown in vitro. Plant cell, Tissue and Organ culture 78, 2004. P. 114-115.			
Gangopadhyay (Gourab)' and Wongpomehi (Sugu-nya). Cloiial propagation of Pandus amaryllifolius. Cur-rent Science. Vol 87, No. 11, 10 December 2004.			
Jha (Sumita) and Tepfer (David). Genetic Transfor-mation and Hybridization (Genetic transformation of Tylophora indite with Agro-bacterium rhizogenes A4: growth and tylophorine productivity in different tran-sformed root clones. Springer. 12 November 04.			
Lahiri Majumdar(A) et al. Synechocystis Fesuperoxi-de dismutase gene confers oxidativestress tolerance to Escherichia coli Biochemi-			

Agriculture	Horticulture	Floric-ulture	Medicinal Plants
cal and Biophysical Research Communications. Elsevier, 316. 04. P. 540-544.			
Lahiri Majumdar(A) et al. A Novel Salt tolerant L-myo-Inositol-I-phosphate Synthase from *Porteresia coarctata* (Roxb.) Tateoka, a Halophytic Wild Rice Molecular Cloning, Bacterial Overexpression, Characterization, And Functional Intro-gression Into Tobacco-conferring Saltt-olerance Phenotype* THE JOURNAL OF BIOLOGICAL CHEMISTRY Vol. 279, No. 27, Issue of July 2, 2004. P. 28539-28552.			
Lahiri Majumder(A). s1117-22, an unassigned open reading frame of Synechocystis PCC6803, codes for L-myo inositol 1-phosphate synthase. Springer-Verlag 04.			
Pal (.A) and Das (S). Differential regeneration response in two Cotyledens of Vignaradiata: Histomorphological analysis and effect of b-arabinogalactan. J. plant Biochem & Biotech 13. 2004. P. 101-106.			
Pal (A) et al. Influence of physiological age and position of the nodal explants on micropropagation of field grown Dendrocalamus strictus Nees. Plant Cell Biotechnology and Molecular Biology 5. 04. P. 45-50.			

Remarks: Hence, from the above discussion it can be firmly concluded that in the year 2004 research trend was focused on Agriculture though we find that there was one research work on Medicinal plants.

Information on plant cloning in Kolkata for the year 2005 :—

Agriculture	Horticulture	Floric- ulture	Medicinal Plants
Das(S). Insecticidal Activity of *Arummaculation* Tuber Lectin and Its Binding to the Glycosylated Insect Gut Receptors. J. Agri Food Chem. 53 2005, P. 6725-6729.	Gangopadhyay (Gaurab). Encapsulation of pineapple micro shoots inalginate beads fortemporary storage. Current Science, Vol. 88. No6.25 March 05.		Chattopadhyay(S). Novel Source of DNA Damage protective activity. Internation al Conference on Promotion and development of Botancials, 05
Das(S). The efficacy of a novel insecticidal protein, *Allium sativum* leaf lectin (ASAL) against homopteran insect monitored intrans-genic tobacco. Plant Biotechnology Journal, 3 2005, P. 601-611.			
Das(S) et al Constitutive and phloem specific Expression of Allium sativum leaf agglutinin (ASAL) to engineer aphid *(Lipaphis erysimi)* resistance in transgenic Indian mustard *(Brassica juncea)* Plant Science, 169. 2005, P. 996-1007.			
Gangopadhyay(G). et al NYPA FRTICANS of Sundarban Bioshere reserve, West Bengal, India-Its genetic diversity and anapproach for conservation. Phytomorphology 55(1&2) 05. P.39-47.			
Jha.(Sumita). Isolation and identification of TL-DNA/ Plant junctions in Convolvulus arvensis transformed by Agrobacterium rhizogenes strain A4. Springer. 2005.			

Agriculture	Horticulture	Floric- ulture	Medicinal Plants
Jha.(Sumita) and Tepfer (David). Unsuccessful sear-ch for DNA transfer from transgenic plants to bacteria in the intestine of the tobacco horn Transgenic Res. Apr; 14 (2). 2005. P. 207-15 16022391.			
Jha.(Sumita) and Tepfer (David). Genetic transforma-tion of Tylophora indica with Agrobacterium rhizogenes A4: growth and tylophorine productivity in different trans-formed root, **Plant** Cell Rep.; 24 (1) Apr. 2005. P. 25-35. 15660269.			
Pal (A) and Das(M). Clonal propagation andproduction of genetically uniform regenerantsfrom auxiliary meristem of adult bamboo. J. Plant Biochem & Biotech 13, 2005. P. 185-188.			

Remarks: Hence, from the above discussion, it can be firmly concluded that in the year 2005 research trend was focused on Agriculture though we find that there was one research work on each Horticulture and Medicinal plants.

Information on plant cloning in Kolkata for the year 2006 :—

| Agriculture	Horticulture	Floric- ulture	Medicinal Plants
Das(S).Small and large scale DNA isolation protocol for chick-pea *(Ocer arietinum* L.) suitable for molecular marker and trans-genic analyses. African Journal of Biotechnology5. 200. P.585-589.			Chattopadhay (S), S. Gene-tic Improvement of tradi-tionally used Indian medicinal Plants National Symposium on Plant Biotechnology 2006.
Das(S). Genetic stability of three economically important micropro-pagated banana *(Musa spp.)* cul-tivars of lower Indo-Gangetic			Chattopadhay (S), S. Oxi-dative DNA damage protective activity and antioxidant pot-ential of

Agriculture	Horticulture	Floric-ulture	Medicinal Plants
plains as assessed by RAPD and ISSR markers. Plant Cell Tissue and Organ Culture 85, 2006, P. 11-21.			traditional Indian-medicinal plants 8FRR India 2006.
Das(S). Transgenic rice expressing *Allium sativum* leaf lectin with enhanced resistance against sap sucking insect pests. Planta 223, 2006 P. 1329-1343.			Pal(A) and Das(S). Arabinogalac tan proteins: Role in plant tissue differentiation and comm-ercial importance. Proceeding of the National Academy of Science, India 76B IV, 06, P.312-320.
Gangopadhyay (G). et al. Sex detection of Garcia papaya and cycas circinalis in pre towering stage, Current Science, Vol 92, No. 4 2006.			Pal(A) and Das(S). Production of genetical uniform swertia chirata an endangered medicinal plant. BIOL Plant 43, 200,: DOI 10.1007.
Jha, (Sumita). Alpha-di-Difluoromethylornithine, a Specific Irreversible Inhibitor of Putrescine Biosynthesis, Induces a Phenotype in Tobacco Similar to That Ascribed to the Root-Inducing, Left-Hand Transferred DNA of Agrobacterium rhizogenes. Plant Physiol. (2) 2006. P.461-468 16668006 [Cited : 2].			
Jha, (Sumita). Inverse Relationship between Polyamine Levels and the Degree of Phenotypic Alteration Induced by the Root Inducing, Left-Hand Transferred DNA from Agrobacterium rhizogenes. Plant Physiol., 92 (4), April 2006, P. 912-918 16667405 [Cited : 2].			
Jha(Sumita) et al. Spontaneous plant regeneration in transformed roots and calli from Tvlophora			

Agriculture	Horticulture	Floric-ulture	Medicinal Plants
Indica: changes in morphological phenotype and tylophorine accumulation associated with transformation by Agrobacterium rhizogenes Plant Cell Rep. Apr 12. 2006; 16609889.			
Lahiri Majumdar(A). Agrobacteriummediated transfor-mation of Brassica juncea with acyanobacterial (Synechocystis PCC6803) delta-6 desaturase gene leads to production of gammalinolenic acid. Plant Molecular and Cellular Genetics. 2006			
Lahiri Majumdar(A). An Insight into the Molecular Basis of Salt Tolerance of L-niyo Inositol 1-P Synthase (PclNOI) from Porteresiacoarctata (Roxb.) Tateoka, a Halophytic Wild Ricel Plant Physiology, Vol. 140, April 2006. P. 1279-1296			
Lahiri Majumdar, (A). An acetolactate synthase homologue of Synechocystissp. PCC6803, functions as L-myo-Inositol 1-phosphate synthase Springer-Verlag 2006 n.I Pal(A) and Das(S). Arabinogalactan proteins: Role in plant tissue differentiation andco-mmercial importance. Proceeding of the National Academy of Science, India 76 B iv, 2006, P. 312-320.			
Pal,(A) and Das(S). In vitro regeneration of Stevia rebaudiana (Bert) from the nodalexplant J. Plant Biochemistry & Biotechnology 16(1), 2006 P. 59-62.			

Remarks: Hence, from the above discussion it can be firmly concluded that in the year 2006 research trend was focused on Agriculture though we find that there were four research work on Medicinal plants which shows a good signal for the future in Medicinal Plants.

Thus it can be concluded that in Kolkata form the year 2002-2006 mainly the plant cloning research is occured in Agriculture Sector. A little bit of work was also done on medicinal plants.

The graph furnished below clearly shows that total number of research woks is gradually increasing year after year.

Year vs number of Research works
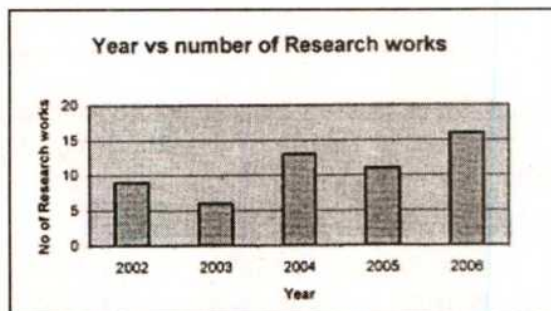
## 2. INSTITUTIONAL RESOURCES

As it is already stated that the current work is "Designing a model of an information system on plant cloning in Kolkata". We in four major institutes of Kolkata restricted our data collection activity.

BOSE INSTITUTE

Main Campus

93/1, Acharya Prafulla Chandra Road,
Kolkata–700009, West Bengal, India
Phone:(+91)(-33)2350-2402/
2403/6619/6702
Fax: (+91)(-33) 2350-6790

Research output of Bose Institute:-
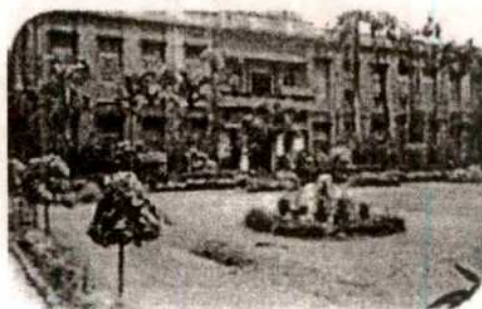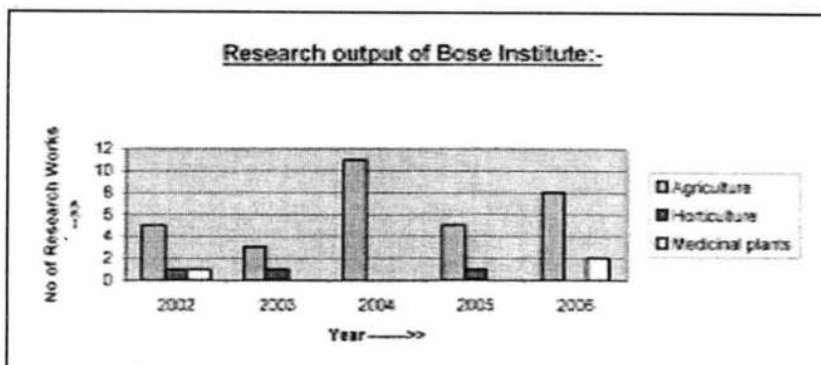
Remarks: The main thrust is focused towards the Agricultural Research works at Bose Institute though some works on Horticulture and Medicinal Plant is simultaneously going on.

Indian Institute of Chemical Biology:

The Institute was established in 1935 as the first non official centre in India for biomedical research and was included within the aegis of CSIR in 1956. IICB today is engaged in research on diseases of national importance and biological problems of global interest, employing sophisticated state-of-the-art technology in keeping with the rapid and unprecedented momentum that life science research has gained globally over the last 50 years. The scientific staff has expertise in a variety of areas including chemistry, biochemistry, cell biology, molecular biology, neurobiology and immunology which promotes productive interdisciplinary interaction. IICB is one Contact address: IICB, Raja S.N.Mallick Road, Jadavpur, Kolkata – 700 019.

Now, let us concentrate on the works held at IICB on Plant Cloning and the associated department:

Research output of IICB:-
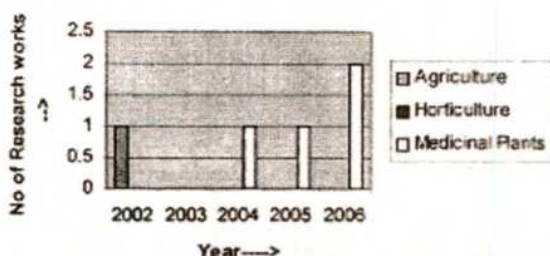
Remarks: The main thrust is focused towards the Medicinal Plants at IICB though some works on Agriculture is simultaneously going on.

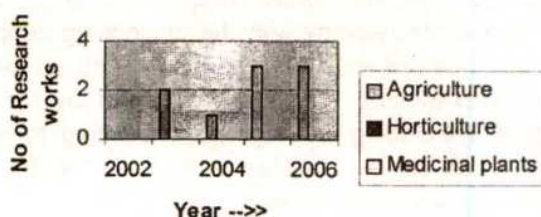### Ballygaunge Science College:

Department of Botany

Contact
35, Ballygunge Circular Road,
Kolkata – 700 019
Phone: 2475-3680/81/82 Extn: 225
Fax : 033 2474 1042

Research output of Ballygaunge Sc. College

Remarks: The main thrust is focused towards the Agriculture at Ballygaunge Science College.

DR. B.C. GUHA
CENTRE FOR
GENETIC ENGINEERING AND BIOTECHNOLOGY

Contact

The Co-ordinator
Dr. B. C. Guha Centre for genetic
Engineering & Biotechnology (4th Fl)
University College of Science & Technology,
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The Guha Centre for Genetic Engineering and Biotechnology (GCGEB) has been named after the legendary Dr. Biresh Chandra Guha, one of the most celebrated teachers of Calcutta University and the father of modern Biochemistry in India. As a fitting tribute to this great visionary who laid the foundation stone for teaching and research in Biochemistry and Biotechnology in the country, Calcutta University established the Dr. B. C. Guha Centre for Genetic Engineering & Biotechnology with the unflinching support of Dr. (Mrs.) Phulrenu Guha, the illustrious wife of late Prof. Guha as well as an active social worker and an ex-Minister of Social Welfare, Govt. of India, who sold her personal properties including her residential building to donate money to the University of Calcutta for the development of the Dr. B. C. Guha Centre for Genetic Engineering and Biotechnology.

Though in B.C.Guha Research Centre research works on Bio-technology is going on but during the time span 2002 to 2006 there was nothing On Plant Cloning.

Presidency College - Kolkata:
PRESIDENCY COLLEGE, KOLKATA

The illustrious history of academic excellence of Presidency College, Kolkata is intimately entwined with the intellectual history of Bengal and India. The foundation of the Hindoo College in 1817 has had far reaching effects on the social and cultural history of the country. The college was renamed as Presidency College and brought under the direct control of the Government in 1855. The college was founded with the expressed intention of providing modern education to the Indian students. Though originally meant for the boys of the Hindoo elite, the college was thrown open to all communities after 1855. The liberal, secular, scientific spirit that marked the advent of Indian modernity was born in this college. Indeed, the history of the college merges into the history of the Bengal, and by extension, the Indian Renaissance.

Contact

87/1 Collegestreet, Kolkata-700073

Year	Agriculture	Horticulture	Floriculture	Medicinal Plants
2003	Jha, (Sumita). and Jha, (Timir). Organogenesis and regeneration from pigmented callus in Camellia sinensis(L.) O. Kuntze cv. Nandadevi, an elite Darjeeling tea clone. Bioone. 2003. P. 207-212	·		

Remarks: During the period 2002 to 2006 only one work on Plant Cloning was carried out in Presidency College, Kolkata.

A. N. Lahiri Majumder
Professor and Head, Plant Molecular & Cellular Genetics
PhD : University of Calcutta (Botany - 1973)
DSc. : University of Calcutta (Biochemistry - 1985)
Research interest and current activities

- Molecular mechanism of stress-tolerance in plants; metabolic engineering of inositol biosynthesis for raising transgenic tolerant crop plants; bioprospecting for stress-tolerant genes.
- Phylogenetic studies on inositol synthase: A genomic and proteomic approach.
- Probing of active-site of eukaryotic inositol synthase Biochemical & molecular studies.
- Regulation of brain and chloroplast Fructose- 1,6-bisphosphatase

Name of group members:
- Dr. Shilpi Ghosh
- Dr. Sitakanta Pattanaik
- Dr. Sanghamitra Bhattacharjee
- Dr. Biswajit Das (jointly with Dr. Sampa Das)
- Mr. Manoj Majee
- Mr. Anirban Chatterjee
- Ms Aparajita Das
- Mr Krishnarup Ghose Dastidar
- Ms. Rittika Bhattacharjee.

Important Publications:
- Lahiri ajumdar (A) et al. L-myo-Inositol 1-Phosphate Synthase from Plant Sources'Characteristics of the Chloroplastic and Cytosolic Enzymes. Plant Physiol. 115.2003. P. 727-736.
- Lahiri Majumdar(A) et al. Synechocystis Fe superoxide dismutase gene confers oxidative stress tolerance to Escherichia coli Biochemical and Biophysical Research Communications. Elsevier 316. 2004. P. 540-544.
- Lahiri Majumdar(A) et al . A Novel Salt-tolerant L-myo-Inositol-1-phosphate Synthase *from Porteresia coaretala* (Roxb.) Tateoka, a Halophytic Wild Rice Molecular Cloning, Bacterial Overexpression, Characterization, and Functional Introgression into Tobacco-conferring Salt Tolerance Phenotype* THE JOURNAL OF BIOLOGICAL CHEMISTRY Vol. 279, No. 27, Issue of July 2, 2004. P. 28539-28552.
- Lahiri Majumder(A). s111722, an unassigned open reading frame of Synechocystis PCC6803, codes for L-myo-mositol 1-phosphate Synthase. Springer-Verlag 2004.

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  Phone: (+91)(-33) 2412-7050, 2472-7316 (R)

Remarks: Dr A. Lahiri Majumdar is mainly working with different varieties of Rice. He however worked in collaboration with Bangladesh.

3. EXPERTS CONTRIBUTIONS

Amita Pal
Professor, Plant Molecular & Cellular Genetics
Universit of Calcutta (Botany-1977)

Research Interest:

- To understand the molecular mechanism of yellow mosaic virus (YMV) resistance in *Vigna mungo.*
- A molecular insight of the differential regeneration response of two cotyledon types of *V radiata.*
- Molecular characterization and phylogenetic relationship assessment of the tropical bamboo species/germplasms. [details)

Research Scholars:

1. Ms. Jolly Basak, SRF (Submiited Ph.D. thesis).
2. Mr. Malay Das (Submiited Ph.D. thesis).
3. Mr. Samik Bhattacharya
4. Mr. Radharaman Bar

Important Publications:

1. Pal (A) and Das(S). Production of genetical uniform swertia chirata an endangered medicinal plant.BIOL-Plant 43, 200,: DOI 10. 1007.

2. Pal (A) and. Das(S). Arabinogal actan proteins:Role in plant tissue differentiation and commercial importance.Proceeding of the National Academy of Science,Indja 76 B-iv, 2006, P. 312-320.

3. Das (M), Bhattacharya (S) and Pal (A). Generation and Characterization of SCARS by Cloning and Sequencing of RAPD Products: A Strategy for Species-specific Marker Development in Bamboo. *Annals of Botany* 95 (2005) : 835-841.

4. Das (M) and Pal (A). *In vitro* regeneration of *Bambusa balcooa* Roxb.: Factors affecting changes of morphogenetic competence in the axillary buds. *Plant Cell Tissue and Organ Culture* 81 (2005) :109-112.

5. Basak (J), Kundagramy (S), Ghose (TK) and Pal (A). Development of yellow mosaic virus (YMV) resistance linked DNA-marker in *Vigna mungo* from population segregating for YMV reaction. *Molecular Breeding* 14 (2004) :375-384.

6. Pal (A), Vrana (J) and Dolezel (J). Flow cytometric analysis of variation in the level of nuclear DNA endoreduplication in the cotyledons amongst *Vigna radiata* cultivars. *Caryologia* (2004).

7. Das (S) and Pal (A). Differential regeneration response in two cotyledons of *Vigna radiata:* Histomorphological analysis and effect of b-arabinogalactan. *J. Plant Biochem. & Biotech* 13 (2004) :101-106.

8. Das (S) and Pal (A). Differential DNA endoreduplication and protein profile during cotyledon ontogeny of *Vigna radiata. J. Plant Biochem. & Biotech.* 12 (2003) :81-90.

Contact

amita@bic.boseinst.emet.in

Remarks: Dr. A. Pal is working in Agriculture and Medicinal Plants sectors.

Apart from the Institutional sources, resource persons and their research out puts are also very useful component in an information system. The research outputs during the period 2002 to 2006 and other details from the stalwart scientists of Kolkata are furnished below :—

Dibyendu N. Sengupta
Reader, Botany PhD:
University of Kalyani (1981)

Research Interest:

Supervising a group of students, Pre-doc and Post-doctoral, in field of Plant Molecular Biology and Biotechnology with projects from Department of Science & Technology (SERC), Department of Biotechnology, Council of Scientific & Industrial Research, Department of Atomic Energy (BARC), of India.

• Biochemical & Molecular analysis of Plant DNA polvinerase (CSIR sponsored)

• Promoter Analysis and Regulation of Gene Expression in Rice Response to Salinity Stress and Transgenic Approach Towards Improvement of its Tolerance

• Delay of Fruit Ripening by Inhibiting Ethylene biosynthesis Through Antisense RNA Approach and Over expression of Protein in Fruits.

- Molecular analysis of Tikka Disease in Groundmit (DAE, BARC sponsored)
  Name of group members:
- Dr Sailendra Nath Sarker (RA, CSIR)
- Dr (Mrs) Saswati Sen, RA, CPMB Project
- Mrs. Kakali Banerjee, JRF, CPMB Project
- Ms. Kamala Neyogi, JRF, CPMB Project
- Ms. Mausumi Sengupta, SRF, DST project
- Mr. Aryadeep RoyChoudhury, JRF, DST Project
- Ms Rohini Trvedi, JRF, DAE Project
- Mr Sujit Roy, JRF, BI Fellow

There is no publication regarding Plant Cloning during the period 2002 to 2006.

Contact

dibyendu@bosemain.boseinst.ac.in

Phone: (+91)(-33) 2430-5272 (R)

Kalyan K. Mukherjee

Research Interest:

Resource survey analysis of wild gene pool for isolation and characterization of novel chemical compounds and/or useful traits for subsequent introgression into the existing cultigen either through conventional breeding or biotechnological approach are the areas of research. Understanding species relationship and the mode of speciation and evolution of chenopodiacious plants is another area of research.

Name of group members:

- Dr. Gaurab Gangopadhyay
- Dr. Subhash Kanti Roy
- Sri S. Dutta
- Smt. Sanjukta ukta Dey

Dr. Gaurab Gangopadhyay is however is performing main research work on plant cloning.Hence the publication are arranged by his name only—

- Gangopadhyay (G) et al. Somatic Embryogenesis in Indian Spinach *(Beta palonga)*. Plant Cell biotechnology and molecular biology 3 (1&2) 2002.

P. 59-64(a) Gangopadhya (G). et al. Esterase as amarker to study the genetic fidelity of micropropagated banana.Biologia Plantarum 47(3). 2003. P. 421-424.

- Gangopadhyay(G) et al.Micropropagation of Tectona grandis: assessment of genetic fidelity. Biologic Plantarum 46(3). 2003. P. 459-461
- Gangopadhyay (Gourab). et al. hiffa *sponge*—a unique matrix for tissue culture of philodendron. Current Science vol. 86, No 2, 25, January 2004.
- Gangopadhyay (Gourab) and Wongpornchi (Sugunya). Clonal propagation of Pandus amaryllifolius. Current Science. Vol. 87, No 11, 10 December 2004.
- Gangopadhyay (Gourab).Trichomes: their diversity, distribution and density in acclimatization of teak (Tectona grandisL.) Plants grown in vitro. Plant cell, Tissue and Organ culture 78, 2004 P. 114-115.
- Gangopadhyay (Gaurab) Encapsulation of pineapple micro shoots in alginate beads for temporary storage. Current Science, Vol 88. No. 6.25 March 2005.
- Gangopadhyay(G) et al. NYPA FRTICANS of Sundarban Bioshere reserve, West Bengal, India-Its genetic diversity and an approach for conservation. Phytomorphology 55 (1&2) 2005. P. 39-47.
- Gangopadhyay (G.) et al. Sex detection of Garcia papaya and cycas circinalis in pre towering stage, Currert Science, Vol. 192, No. 4 2006.

Remarks : The main work of Dr .Gangopadhyay is on agriculture sector of plant cloning.He however worked in collaboratation of Thialand University for a Rice Species.

Sampa Das

Cellular Genetics

Senior Lecturer, Plant Molecular & PhD: University of Calcutta (Botany -1981).

Research Interest and Current Activities:

- Expression of agronomically important genes in crop plants.
- Identification, characterisation and purification of few insecticidal Lectins and other proteins from plant sources.

- Isolation and cloning of effective insecticidal lectin and other protein coding gene(s) from respective plant genome(s).
- Establishment of efficient plant regeneration and transformation protocol for mustard, chickpea and pigeonpea.
- Introgression of insecticidal protein coding genes into above crop varieties.

Past Research Work:

- Construction of a number of vectors with different T-DNA border elements for a better understanding of mechanism of T-DNA integration into host plant.
- Construction of chimeric Bt, protease inhibitor gene (s) and other agronomically important gene(s) constructs for their expression in important crops namely, rice and mustard for increased productivity.

Name of group members :

- Ms. Krishna Ray
- Dr. Biswajit Das (jointly with Prof. Lahiri Majumder)
- Mr. Santana Bandyopadhyay
- Mr. Indrqjit Datta
- Mr. Pralay Majumder

Recent Works:

- Roy (S), Banerjee (P), and **Das (S).** Efficiency of Mannose Binding Plant Lectins in Controlling a Homopteran Insect, The Red Cotton Bug,. J. Agri. Food Chem, 50 (2004) : 6775-6779.
- Banerjee (S), Hess (D), Majumder (P), Roy (D) and **Das (S),** The interaction of Allium sativumleaf lectin with a chaperonin group of unique receptor protein isolated from a bacterial endosymbiont of the mustard aphid. **J. Biol.** Chem. 279(22) (2004) : 23782-23789.
- Romeis (J), Sharma (HC), Sharma (KK), **Das (S)** and Sarmah (BK), The potential of transgenicchickpeas for pest control and possible effects on non-target arthropods. Crop Protection 23 (2004) : 923-938.
- Majumder (P), Banerjee (S) and **Das (S),** Identification of receptors responsible for binding of the mannose specific lectin to the gut epithelial membrane of the target insects. Glycoconjugate J. 29 (2004) : 525-530.
- Dutta, (R). Majumder, (P), Ray (K), Saba, (P) and **Das, (S)** Constitutive and phloem specific Expression of Allium sativum leaf agglutinin (ASAL) to engineer aphid (Lipaphis erysuni) resistance in transgenic Indian mustard (Brassica juncea) Plant Science, 169 (2005) : 996-1007.
- Dutta (R), Saha (P), Majumder (P), Sarkar (A), Chakraborti (D), Banerjee (S) and **Das (S)** The efficacy of a novel insecticidal protein, Allium sativum leaf lectin (ASAL) against homopteran insect monitored in transgenic tobacco. Plant Biotechnology Journal, 3 (2005) : 601-611.
- Majumder (P), Mondal (HA) and **Das (S),** Insecticidal Activity of Arun maculatum Tuber Lectin and its Binding to the Glycosylated Insect Gut Receptors. J. Agri. Food **Chem.** 53 (2005) : 6725-6729.

- Saba (P), Majumder (P), Dutta (R), Ray (T), Roy (SC), Das (S), Transgenic rice expressing *Allium sativum* leaf lectin with enhanced resistance against sap sucking insect pests. Plants 223 (2006) : 1329–1343.

- Chakraborti (D), Sarkar (A), Gupta (S) and **Das (S).** Small and large scale DNA isolation protocol for chickpea *(Cicer arietinum* L.) suitable for molecular marker and transgenic analyses. African Journal of Biotechnology 5 (2006) : 585-589.

- Ray (T), Dutta (I), Saha (P), **Das (S)** and Roy (SC). Genetic stability of three economically important micropropagated banana *(Musa spp.)* cultivars of lower Indo-Gangetic plains as assessed by RAPD and ISSR markers. Plant Cell **Tissue** and Organ Culture 85 (2006) :11.

- Chakraborti (D), Sarkar (A) and **Das (S).** Efficient and rapid in vitro plant regeneration system for Indian cultivars of Chickpea. Plant Cell Tissue and Organ Culture 86 (2006) :117-123.

- Das (B), Goswami (L), Ray (S), Ghosh (S), Bhattacharya (S), **Das (S),** Lahiri Majumder (A). *Agrobacterium-mediated* transform ationof *Brassica juncea* with a cyanobacterial *(Synechocystis* PCC6803) delta-6 desaturase gene leads to production of gamma-linolecnic acid. Plant Cell **Tissue** and Organ Culture 86 (2006) :219-231.

- Saha (P), Dasgupta (I) and **Das (S).** A novel approach for developing resistance in rice against phloem limited viruses by antagonizing the phloem feeding hemipteran vectors. Plant Molecular Biology 62 (2006) : 735-752.

- Saha (P), Chakraborti (D), Sarkar (A), Dutta (I), Basu (D) and **Das (S)** Characterization of vascular-speciWc *RSs I* and *rolC* promoters for their utilization engineering plants t develop resistance against hemipteran insect pests. Planta 226 (2007) : 429-442.

- Roy (A)., Chakraborti (D) and **Das (S).** Effectiveness of garlic lectin on red spider mites of tea. Journal of Plant Interaction [E Pub, ahead of print].

Contact

sampa@bis.boseinst.ernet.in.sampa@hotmail.com

Phone: (+91)(-33) 2335-0560, 2351-0345 (R)

Remarks : Dr. Sampa Das is mainly dealing with agriculture related sector on plant Cloning.

Swati Sen-Mandi

PhD: University of Professor, Botany Cambridge (1975)

Research Interest:

- Genomics:

   a. DNA fingerprinting for cataloging and documenting germplasm

   b. Structural and functional aspects of plant genome

- Cellageing in dry seed during post harvest storage.
- Active oxygen content and cell protective enzymes in plants at low and at high altitude with an aim to studying plant survival.

Current activities:

- Developing DNA markers for abiotic stress tolerance in plants
- DNA fingerprints using RAPD and AFLP methods are being developed for documentation/cataloging of indigenous plant germplasm.
- Genome analysis including cloning, sequencing and studying genome organization is being undertaken in an attempt to understand the genomes of rice and tea plants.
- Correlative studies between genome analysis and enzyme / isozyme activities specifically related to active oxygen scavenging pathways have led to the establishment of molecular (DNA) marker for drought tolerance in tea plants.
- Specific PCR amplified fragments have been identified that correlates with seed vigour trait in rice. A specific DNA fragment is now being cloned and characterized for designing a specific DNA primer for screening rice germplasm for seed vigour with an aim to assisting direct seeding cultivation practice in view of rapidly diminishing resources of land, water and labour suitable to agriculture.
- Loss of seed vigour during post harvest storage and invigoration pretreatments have been studied in rice with special reference to active oxygen content and DNA damage in cells vis—vis plant survival.

Name of group members :

- Sudeshna Bhattacharya (Junior Research Fellow)
- Rajan Kumar Mishra (Senior Research Fellow)
- Rupa Banerjee (Junior Research Fellow)
- Ritupama Kundu Chaudhuri (Junior Research Fellow)

Laboratory Technician:

- Kaberi Ghosh

Important publications:

- Das (G) and Sen-Mandi (S), Jounal of Rubber Research , Over-exploitation Associated Changes in Free Radicals and its Scavengers in *Hevea bresiliensis.* 2002, 5 (1). 28-40.

   Contact

   senmandi@bosemain.boseinst.ac.in

Remarks: Dr. Sen Mandi Currently is working on medicinal Plants cloning.

Dr. Sharmila Chattopadhyay
Scientist Gr. IV (II)
PhD, Visva Bharati University, 1988
Postdoctoral Fellow, ATO (DLO), Wageningen, The Netherlands,1991-92
Contact:
mailto:sharmila@iicb.res.in?

Current Research Interest:

- To elucidate biosynthetic pathways of secondary metabolites that has a potentially beneficial biological effect, and genetic manipulation of plant natural products.
- Plantdisease resistance: mechanisms and signal networks
- Pathway engineering in transgenic, plants to improve traits for

Names of the group members including regular staff with designation and research fellows:

1. Anindita Bannerjee, SRF
2. Amrita Chakraborty, SRF
3. Srijani Ghanta, SRF
4. Dipto Bhattacharya, JRF
5. Himadri Biswas, JRF
6. Avijit Poddar (Intra-Institutional), SRF

List of important publications:

- Chattopadhyay (S) et al. Tissue specific over expression of Gene encoding GSH biosynthetic pathway's enzyme in transgenic phyllanthus ai-narus. SXL. 1142. Kolkata, 2002
- Chattopadhyay (S) et al. Genetic improvement of traditionally used Indian medicinal plants. laboratory Paper of Indian Institute of Chemical Biology. 2004 (unpublished till date)
- Chattopadhyay (S). Novel Source of DNA Damage protective activity. International Conference on Promotion and development of Botancials, 2005.

- Chattopadhay (S). Genetic Improvement of traditionally used Indian medicinal Plants. National Symposium on Plant Biotechnology 2006. Chattopadhay,S Oxidative DNA adamage protective activity and antioxidant potential of traditional Indian medicinal plants SFRR–India 2006.

Patent Filled:

- Chattopadhyay (Sharmila), Poddar (Avijit), Kumar (Akhilesh), Achari (Basudeb). Leishmanicidal activity of Calceolarioside A containing night jasmine leaf extract, 2005. (2725 DEL 2005).

Remarks: Dr.Chattopahyay is mainly working with Indian MedicinalPlants.She also fillied for patent for one of her research work.

Sumita Jha

Publication:

- Jha (S) et al. Homology-dependent DNA transfer from plants to a soil bacterium under laboratory conditions: implications in evolution and horizontal gene transfer. Res. Aug; 12 (4).2003. P 425-37 12885164 [Cited: 2].
- Jha (Sumita). and Jha, (Timir). Organogenesis and regeneration from pigmented callus in Camellia sinensis (L.) O. Kuntze cv. Nandadevi, an elite Darjeeling tea cloiie.BioOne. 2003. P. 207-212.
- Jha(Sumita) and Tepfer (David). Genetic Transformation and Hybridization (Genetic transformation of *Tylophora indica* with *Agrobacterium rhizogenes* A4: growth and tylophorine productivity in different transformed root clones. Springer. 12 November 2004.
- Jha (Sumita). Isolation and identification of TL-DNA/plant junctions in Convolvulus arvensis transformed by Agrobacterium rhizogenes strain A4. Springer. 2005.
- Jha (Sumita) and Tepfer (David) Unsuccessful search for DNA transfer from transgenic plants to bacteria in the intestine of the tobacco horn worm, Manduca sexta. Transgenic Res. Apr; 14 (2). 2005. P. 207-15 16022391 bally/agr.
- Jha (Sumita) and Tepfer (David). Genetic transformation of Tylophora indica with Agrobacterium rhizogenes A4: growth and tylophorine productivity in different transformed root, Plant Cell Rep.; 24 (1) Apr 2005. P. 25-35 15660269.
- Jha (Sumita) alpha-dl-Difluoromethviornithine, a Specific, Irreversible Inhibitor of Putrescine Biosynthesis Induces a Phenotype in Tobacco Similar to That Ascribed to the Root-Inducing, Left-Hand Transferred DNA of Agrobacterium rhizogenes. **Plant** Physiol. (2) 2006. P: 461-468 16668006 [Cited: 2].
- Jha (Sumita). Inverse Relationship between Polyamine Levels and the Degree of Phenotypic Alteration Induced by the Root-Inducing, Left-Hand Transferred DNA from Agrobacterium rhizogenes. Plant Physiol.; 92 (4), April 2006, P: 912-918 16667405 [Cited: 2]

Contact:

Sumita Jha

Cell Biology, Mol Genet & Pl Biotech 2417-3144

sumita.jha@vsnl.com.

Remarks: Dr. S. Jha is working for years on plant cloning. She also applied for patents for some of her work. She is working with a French Collaboration regarding Plant cloning.

Dr Timir Jha Prof. & Head, Department of Botany

Address : Department of Botany, Presidency College 86/1 College Street, Kolkata 700 073. E-mail: tbjha2000@yahoo.co.in / presibot@vsnl.net, Phone : 033 22198647

Academic Profile:

Teaching and Administritive Experience:

Twenty eight (28) years of Undergraduate and Post Graduate teaching experience in different Government Colleges as Lecturer, Assistant Professor and Reader under WBES. In 1995 joined WBSES as Professor of Botany.

Worked as Additional Director of Public Instructions (Administration) in the Higher Education Directorate, Govt. Of West Bengal from 1998-2002.

Research Interest: Plant Biotechnology

Area of Research:

Thirty (30) years of research experience in the field of Plant Biotechnology. Associated with the Biotechnological Improvements of

Plantation crops: Tea, Cashewnut,

Biofuel crop: Jatropha curcas,

Medicinal plants: Taxes, Artemisia, Swertia, Glycyrrhiza, Chlorophytum, Stevia and Aloe.

Postdoctoral, research since 1982. More than 40 papers & abstracts have been published in National and International Journals. Head have attended many seminars/symposia both in country and abroad.

Research Group:

Ritupama Kundu Chowdhuri (CSIR,SRF)

Priyanka Mukherjee (JRF)

Sautrik Basu (JRF)

Sanjay Das (Supporting Staff)

Member of Professional Bodies:

IAPB (International Association of Plant Biotechnology) since 1978

Ongoing Research Projects:

Project Title: Micropropagation of Chlorophytum and Glycyrrhiza.

Principal Investigator: Timir baran Jha Sponsor: W.B. D.S.T.

Project Title Germplasm preservation & clonal propagation of medicinally important Swertia species"

Principal Investigator: Timir baran Jha Sponsor: CSIR Govt.Of India

Publications 2006 – 2007:

- Chaudhuri (RK), Pal (A), **Jha (T).** Mass propagation & conservation of an endangered herbal species Swertia chirata"(Abstract) I Ith International Conference of Plant Tissue Culture & Biotechnology at Beijing, China , Aug. 13 -18, 2006, pp- 152

- Jha (T). Jatropha, a biodiesel yielding medicinal plant. In Proceedings of National Seminar on Herbs for health care and nutritional benefits, An assessment for sustainable utilization, Published by Swami Asaktananda, Ramakrishna Mission Ashrama, Narendrapur 209-213, 2006

- Mukherjee (P) and Jha (T) : In vitro micropropagation and role of sucrose concentration in leaf opening and root nature improvement of Glycyrrhiza glabra Linn; Proc. Of Nat. Symp. On Plant Biotechnology:New Frontiers(2005). CIMAP. 273-278.

- Kundu Chaudhuri (R) and Jha (T). A protocol for rapid micropropagation of Swertia chirata (Roxb.) Karst. Proc. Of Nat. Symp. On Plant Biotechnology:New Frontiers(2005). CIMAP. 279- 284.

- Basu (S) and **Jha (T).** In vitro propagation of the rare medicinal plant Chlorophylum borivilianum Sant. et. Fern. Proc. Of Nat Symp. On Plant Biotechnology: New Frontiers (2005). CIMAP. 285-289.

- Jha (T), Mukherjee (P) and Datta (MM). Somatic embryogenesis in Jatropha curcas Linn. an important biofuel plant. Plant Biotechnology Reports, (Springer Verlag) 1:135-140.

- Chaudhuri (RK), Pal (A), Jha (T). Production of Genetically Uniform Plants from Nodal Explants of Swertia chirata Buch.-Ham. ex Wall.- A Critically Endangered Medicinal Herb. In Vitro Cellular & Developmental Biology-Plant, (Springer Verlag) DOI 10. 1007/sl 1627-007-9095-9.

- Datta (MM), Mukherjee (P), Ghosh (L)˙and Jha (T). In vitro Clonal propagation of Bio diesel plant. Current Science, 93, No. 10.

Seminar, Symposium attended (2006-07):

1. 11th International Conference of Plant Tissue Culture & Biotechnology at Beijing, China, Aug. 13-18, 2006.

2. Regulations for Development & Commercialization of GM Crops. Sponsored by DBT Govt. of India & Ministry of Environment & Forests, Govt. of India, at Paribesh Bhawan, Salt Lake City, July 19, 2007.

3. "Agri Biotechnology Opportunities and Challenges" Organized by ASSOCHAM New Delhi on 03.08.2007, at Taj Bengal Kolkata.

4. ASSOCHAM 5th Global Knowledge Millennium Summit-13213 in Bio Nano Technology, 18-21 Sept. 2007, New Delhi.

Publication Of Books:

1. **Jha (TB)** and Ghosh (B). PLANT TISSUE CULTURE BASIC AND APPLIED Universities Press. 2005.

2. Jha (TB), Mandal (DR) and Ghosh (B). Biology MCQ PLUS... Theoretical Concepts, U.N.Dhar & Sons Pvt.Ltd. Kolkata. 2007.

Some Important earlier publications:

Jha (Sumita). and Jha (Timir). Organogenesis and regeneration from pigmented callus in Camellia sinensis (L.) O. Kuntze cv. Nandadevi, an elite Darjeeling tea clone Bioone. 2003, P. 207-212

At the time of designing an information system the users need of the existing system is to be minutely studied thus one can build a model system, which will be almost flawless, As the basic objective of information system is to provide RIGHT INFORMATION TO RIGHT PERSON AT RIGHT TIME.

So in order to design PLANT CLONING INFORMATION SYSTEM IN KOLKATA more user centric, a user survey is done by means of questionnaire. This is analyzed to find the user need on the said field and satisfaction level with the existing system i.e. BIOTECHNOLOGICAL INFORMATION SYSTEM. (BITS).

Mainly the scientists, reasrch workers of the four institutions (BOSE INSTITUTION, INDIAN INSTITUTE OF CHEMICAL BIOLOGY, BALLYGAUNGE SCIENCE COLLEGE AND B. C. GUHA RESEARCH CENTRE, PRESIDENCY COLLEGE, KOLKATA) are surveyed. Due to shortage of time a simple questionnaire is prepared

It is a privilege for me that all most all respondent to the questionnaire.

A sample questionnaire along with the analysis is given below :

a) Designation: Researcher / scientists

b) Name of the Institute:

c) Particular area of research:

d) Spending how many hours in library: (in per week/days/month)

e) Document looking for: (ex--book, journals, e-documents)

f) Level of satisfaction with the existing resources-   (Grade A to E)

g) The resource which are needed but not available

h) Whether use library catalogue (any suggestion for its improvement)-

i) Whether ever search any secondary services (Like abstracting / Indexing Journals like Biological abstract online offline): (Yes / No)

j) Whether use any kind of Reference services (like Current Awareness Services etc., suggestion).

k) Any Idea about BITS: (Yes / No)

l) Do they use INTERNET? (Yes / No)

(Purposes like looking for published paper, free e—resources, others)

m) Idea regarding bioinformatics?

n) Suggestion regarding the existing system—

The analysis of the result reveals that approximately 96% people responded and the final result is furnished below:

1. It is very rare that they visit library as they mostly browse journals available via INTERNET or those subscribed by their institution or journals available by means of consortia of CSIR at their computers. However sometimes they also need some textbook on chemistry, physics, and biology along with the books on cloning, though the percentage might be very low.

Sl.No	Subject	Percentage
1.	Tendency to explore Library resource (Bose Institute)	85
2.	Tendency to explore Library resource (IICB, Kolkata)	78
3.	Tendency to explore Library resource (Presidency College)	15
4.	Tendency to explore Library resource (Ballygaunge Sc. College and B.C. Guha Research Centre)	35

2. They generally look for recent journal articles on plant Cloning But sometimes they also need some old references like - some issue of Nature (e.g. where double helical structure of DNA was revealed by WATSON and CRICK).

Sl.No	Subject	Percentage
1.	Use of recent journal article	92
2.	Use of retrospective journal article	34
3.	Use of books and other Library resources	22

3. They generally have little or almost no say regarding library resources to be acquired. As mostly they are prescheduled by funding agencies like CSIR, DBT.

Sl.No	Subject	Percentage
1.	Awareness of Library resources and their right regarding thecollection development	48

4. They however used library cards and have thorough knowledge regarding basic library operation, as they are basically academic person. Most of them suggested for fully automated library operation; regarding cataloguing also they demand an automated module.

Sl.No	Subject	Percentage
1.	Knowledge regarding usage of Library cards and other basic library operation	92

5. They however suggested for integrated cataloguing system at least for all-important libraries in kolkata. So that they can understand the document available in other institution which most of them are not known at all.

6. It is though very rare but sometimes they search BIOLOGICAL ABSTRACT also. Though none of these four leading institution subscribing BIOLOGICAL ABSTRACT online. They have very old printed edition. .

Sl.No	Subject	Percentage
1.	Searching of Biological abstract (Bose Institute)	53
2.	Searching of Biological abstract (IICB, Kolkata)	68
3.	Searching of Biological abstract (Presidency College)	5
4..	Searching of Biological abstract (Ballygaunge Sc. College and B.C. Guha Research Centre)	14

7. They hardly have any idea regarding current awareness services, in one of the institution however the scholar get some e-mail on the arrival of their journal of interest.

Sl.No	Subject	Percentage
1.	Utility of current awareness service	34

8. They are concern about BIOTRCHNOLOGIACAL INFORMATION SYSTEM (BITS), but the basic feature of BITS and how they can be benefited is hardly known by them.

The Use of BITS:

Sl.No	Subject	Percentage
1.	Knowledge of BITS	22

9. All of them always use Internet for study publication etc. Most of them are having own WebPages for communication. INTERNET is the most important tool for their communication and information.

The Use of Internet:

Sl.No	Subject	Percentage
1.	Publication	85
2.	e-mail	81
3.	Reference	75
4.	Net browsing	87

10. They have however a thorough knowledge regarding bioinformatics. They all suggested it more usage.

Sl.No	Subject	Percentage
1.	Knowledge of bioinformatics	94

11. They however provided the following suggestion

a) There is very little or almost no communication among the scholar of these four institutions. They need a regular communication, which preferably to be an electronic one and be part of the Plant Cloning information system

b) They desperately want a database on plant cloning for hand on information.

c) As they are always part of some project work conducted by some funding agency they sometime need personal exposure by means of this information system.

d) They want filtered Internet information via the plant cloning information system on the said field

e) They want to use Biological Abstract of updated version.

f) They also want to get the benefit of BITS via The Plant cloning information system.

g) They need some orientation course to properly use the available resources.

The plant cloning information system should use such suggestions in order to provide the best services. The software and hardware backup is highly needed as all urged for an automated 24X7 system. As two of the institution has Bioinformatics centre which can be included in Plant cloning information system while designing it.

CONCLUSION

The plant cloning is a major trend of research now; there are many pros and cons of the subject. There is numerous research activities are going on worldwide. In our country in government as well as in private sectors several project, programme is running on plant cloning. But in my limited efforts I however enable to find any information system is only working on plant cloning,

Though there are many information system supporting plant cloning in world and also in our country [As Bio Technological Information system under Department of Biotechnology]. So an effort should be made to bring the scientists,research workers [who are working on different aspects on plant cloning, in different sectors]of different organizations private or public, and their total research output in one platform in order to provide RIGHT INFORMATION TO RIGHT TIME TO RIGHT PERSON.

Though my work is too small to design a model on an information system, as the data are information are not up to the mark and complete rather the data collected is quite fragmented and partial. Time became constrain for my work. Still I hope my little effort may able to unveil the present scenario partly. A few suggestions was made regarding designing model on Plant cloning information system. Though it should be very clear that the outline output and input data and structure can only be prepared by the information system but the real system to be designed by software and hardware experts.
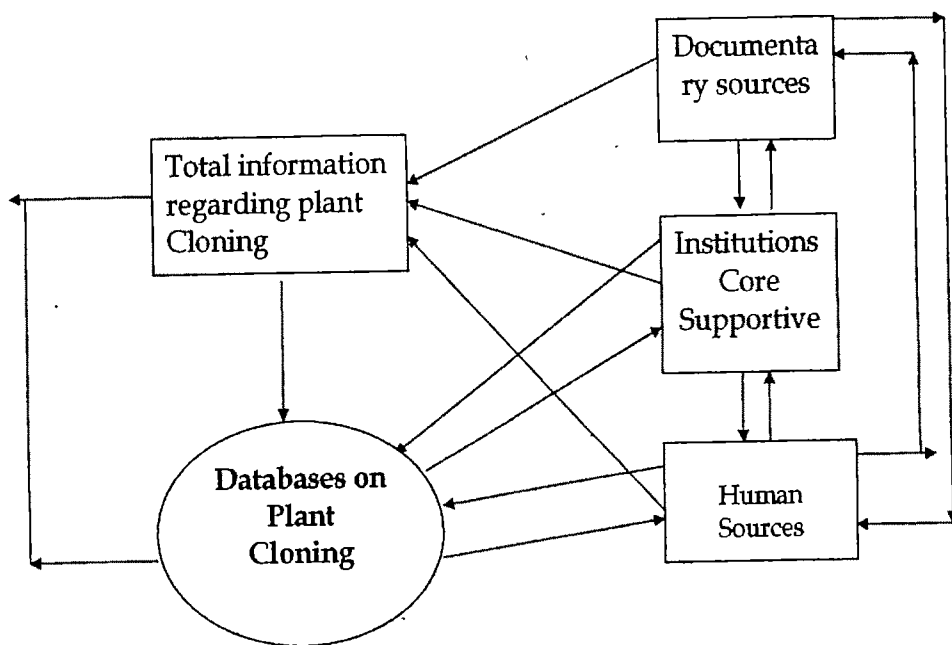
Acknowledgement:

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http/dbtindia.in 02.01.2008 8.15 GMT

http/www,accessexcellence.com/AB/BC 3.02.2008 16.53 GMT

http/www.anguis.su.oz.an 16.01 2008 17.21 GMT

http/www biotechinfo.com 24.12.2007 8.45 GMT

http/wwwcbi.pku.edu.com 14.09.2007 8.15 GMT

Beside these the following search engines are used several times during these six months (September 2006—February 2008)

http/www.google.com Uncountable time

http/www.yahoo.com Uncountable time

AN ANALYTICAL STUDY ON THE USE OF INTERNET AMONG THE STUDENTS AND TEACHERS OF ST. PAUL'S CATHEDRAL MISSION COLLEGE OF KOLKATA

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Abstract : The paper describes the use of internet in the St. Paul's Cathedral Mission College of Kolkata. It analyses the use of internet from the point of views like problems faced by the users, frequency of use, no. of students and teachers using the internet, search engines used by the users, computer training of the users and purpose of using the internet by the users. All the tables are analyzed pin pointedly. The issues relating to the use of internet are discussed in a lucid and vivid manner. It is a simple and exhaustive study about the use of internet by the users of St. Paul's Cathedral Mission College of Kolkata.

Key Words: <Internet Use>, <St. Paul's Cathedral Mission College>, <Kolkata>

1. INTRODUCTION :

Internet is the network of networks. Internet plays a vital role in our daily life. Without having the internet connectivity we can not do our study or research. In the knowledge society we cannot think any matter without the internet. Internet is the chief medium of information exchange. This study was conducted to know the use of internet among the students and teachers of St. Paul's Cathedral Mission College in Kolkata.

2. OBJECTIVES OF THE STUDY :

(i) To know about the users of internet whether they have any formal computer training.

(ii) To know the reasons for using the internet.

(iii) To know the frequency of visiting the internet centre.

(iv) To know about the search engines used by the users.

(v) To identify the problems faced by the users at the time of using the internet.

3. IMPORTANCE OF THE STUDY :

Internet is the information hub. Now-a-days, without having the internet nobody can step forward regarding his study or research. So, the study about the use of internet is the important part of research in information science. This study throws light on the use of internet among the students and teachers of St. Paul's Cathedral Mission College at Kolkata.

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4. SCOPE AND COVERAGE OF THE STUDY:

This study was confined to the students and teachers of St. Paul's Cathedral Mission College at Kolkata. 45 (Forty Five) number of students and 5 (Five) number of teachers were taken into consideration as the respondents. Total 50 (Fifty) number of respondents were considered for this study.

5. METHODOLOGY:

Data collected from the students and teachers of St. Paul's Cathedral Mission College through questionnaire and personal interview. It was a non-participant observation and after collecting the data the researcher discussed the matter with the teachers and students. Data analyzed in the tabular form and at the end the conclusion drawn along with suggestions and recommendations.

6. ANALYSIS:

6.1. Table–1

Distribution of Respondents

Type of Users	Number of Respondents	Percentage
Students	45	90%
Teachers	05	10%
Total	50	100%

After analyzing the above table we can say that out of total 50 number of respondents there are 45 number of students which covers 90% of the total respondents and on the other hand there are 5 number of teachers which includes 10% of the total respondents.

6.2. Table–2

Distribution of Respondents regarding any Computer Training

Particulars	No. of Respondents		Total	Percentage
	Students	Teachers		
Formal Computer Training	26 (52%)	3 (6%)	29	58%
No Formal Computer Training	19 (38%)	2 (4%)	21	42%
Total	45 (90%)	5 (10%)	50	100%

The above table shows that 26 numbers of students have formal computer training and the number covers 52% of the total sample population. 3 (6%) number of teachers have formal computer training. On the other hand, 19 numbers of students have no formal computer training which covers 38% of the total respondents. 2 (4%) number of teachers have no formal computer training. The table shows that total 29 number of users have formal computer training which covers 58% of the total sample population and 21 number of users have no formal computer training which covers 42% of the total respondents.

6.3. Table–3 Distribution of Respondents according to the Frequency of Visiting the UGC Resource Network Centre.

Frequency	No. of Respondents		Total	Percentage
	Students	Teachers		
Daily	24 (48%)	2 (4%)	26	52%
Twice-Thrice in a Week	18 (36%)	3 (6%)	21	42%
Weekly	2 (4%)	0	2	4%
Monthly	1 (2%)	0	1	2%
Total	45	05	50	100%

From the above table it is clear that 24 numbers of students are using internet daily and it covers 48% of the total sample population. 2 numbers of teachers are using internet daily which covers 4% of the total respondents. 18 number of students are using internet twice or thrice in a week which covers 36% of the total respondents. 3 number of teachers are using internet twice or thrice in a week which covers 6% of the total respondents. 2 numbers of students are using internet once in a week which covers 4% of the total sample population and 1 number of student using internet once in a month which covers 2% of the total respondents. From the above table it is clear that 26 numbers of users are using internet daily which covers 52% of the total population. 21 number of users are using internet twice or thrice in a week which covers 42% of the total population. 2 numbers of users are using internet once in a week which covers 4% of the total population. 1 number of user is using internet once in a month which covers 2% of the total respondents.

6.4. Table–4 Distribution of Respondents According to the Purpose of Using the Internet.

Purpose for Internet Use	No. of Respondents		Total	Percentage
	Students	Teachers		
E-Mail	7 (14%)	1 (2%)	8	16%
Entertainment	14	—	14	28%
Preparation of Project Reports, Assignments, Preparation of Papers for Seminars and Conferences	8	—	8	16%
Placement Opportunity	15	—	15	30%
Knowledge about the growth and development of a subject	—	3	3	6%
Publication of Research Articles	—	1	1	2%
Any Other Purpose	1	—	1	2%
Total	45	05	50	100%
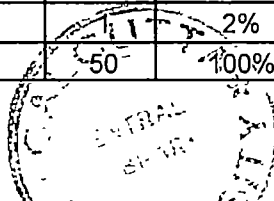
After analyzing the above table we can say that 7 numbers of students are using internet for the purpose of e-mail which covers 14% of the total population. 1 number of teacher is using internet for the purpose of e-mail. 14 numbers of students are using internet for the purpose of entertainment which covers 28% of the total population. 8 numbers of students are using internet for the purpose of preparation of project reports, assignments and preparation of papers for seminars and conferences and which covers 16% of the total respondents. 15 numbers of students are using internet for the purpose of placement opportunity and which covers 30% of the total population. 3 number of teachers are using internet for the purpose of gaining knowledge about the growth and development of a subject and which covers 6% of the total population. 1 number of teacher is using internet for the purpose of publication of research articles and which covers 2% of the total population. 1 no. of student could not specify his objective for using the internet and which covers 2% of the total population. After analyzing the above table, we can say that 8 number of users are using the internet for the purpose of e-mail and which covers 16% of the total respondents. 8 number of users are using the internet for the purpose of preparation of project reports, assignments & preparation of papers for seminars and conferences and which covers 16% of the total population. 14 number of users are using internet for the purpose of entertainment and which covers 28% of the total population. 15 number of users are using internet for the purpose of placement opportunity and which covers 30% of the total population. 3 number of users are using internet for the purpose of gaining knowledge about the growth and development of a subject and which covers 6% of the total population. 1 number of user is using the internet for the purpose of publication of research articles and which covers 2% of the total respondents. 1 number of user could not specified his objective for using the internet and which covers 2% of the total population.

6.5. Table—5 Distribution of Respondents According to the Problems faced by the Users at the Time of using the Internet.

Problems	No. of Respondents		Total	Percentage
	Students	Teachers		
Machine Hang-up	4 (8%)	1 (2%)	5	10%
Virus Affected	3 (6%)	1 (2%)	4	8%
Speed of the Modem is Low	2	—	2	4%
URL Problem (i.e. Name of the Domain)	11	—	11	22%
Electricity Supply Failure	4	—	4	8%
Facing the Effluent Pages	9 (18%)	1 (2%)	10	20%
Facing the Problem of Net Trap	12 (24%)	2 (4%)	14	28%
Total	45	05	50	100%

The above table shows that 4 no. of students are facing the machine hang-up problem which covers 8% of the total respondents. 1 no of teacher is facing the problem of machine hang-up which covers 2% of the total population. 3 number of students are facing the problem of virus attack which covers 6% of the total respondents. 1 number of teacher is facing the problem of virus attack which covers 2% of the total population. 2 number of students are facing the problem of low modem speed which covers 4% of the total population. 11 number of students are facing the URL problem, which covers 22% of the total respondents. 4 number of students are facing the problem like electricity supply failure which covers 8% of the total population. 9 number of students are facing the problem of effluent pages which covers 18% of the total respondents and 1 no of teacher is facing the problem of effluent pages which covers 2% of the total population. 12 no. of students are facing the problem of Net Trap which covers 24% of the total respondents and 2 no. of teachers are facing the problem of Net Trap which covers 4% of the total population. The above table shows that 5 no. of users are facing the machine hang up problem which covers 10% of the total population. 4 number of users are facing the problem of virus attack which covers 8% of the total respondents. 2 no. of users are facing the problem of low modem speed which covers 4% of the total population. Total 11 number of users are facing the URL problem which covers 22% of the total population. 4 number of users are facing the problem of electricity supply failure which covers 8% of the total respondents. 10 no. of users are facing the problem of effluent pages which covers 20% of the total population. 14 number of users are facing the problem of Net Trap which covers 28% of the total respondents

6.6. Table–6 Distribution of Respondents According to the Search Engines used by the users of Internet.

Name of the	No. of Respondents		Total	Percentage
Search Engine	Students	Teachers		
Google	29 (58%)	3 (6%)	32	64%
Yahoo	11 (22%)	2 (4%)	13	26%
Rediffmail	3	—	3	6%
MSN	1	—	1	2%
Alta Vista	1	—	1	2%
Lycos	—	—	—	—
Khoj	—	—	—	—
Others	—	—	—	—
Total	45	5	50	100%

From the above table it is clear that 29 number of students are using the search engine "Google" which covers 58% of the total population. 3 number

of teachers are using the search engine "Google" which covers 6% of the total respondents 11 number of students are using the search engine "Yahoo" which covers 22% of the total population. 2 number of teachers are using the search engine "Yahoo" which covers 4% of the total respondents. 3 number of students are using the search engine "Rediffmail" which covers 6% of the total population. 1 number of student is using the search engine "MSN" which covers 2% of the total respondents. 1 number of student is using the search engine "AltaVista" which covers 2% of the total respondents. From the above table is also clear that total 32 number of users are using the search engine "Google" which covers 64% of the total population. 13 number of users are using the search engine "Yahoo" which covers 26% of the total respondents. 3 no. of users are using the search engine "Rediffmail" which covers 6% of the total population. 1 no. of user is using the search engine "MSN" which covers 2% of the total respondents and 1 number user is using the search engine "Alta Vista" which covers 2% of the total population.

7. CONCLUSION :

Huge information are available on the internet. Quantities of information are increasing day by day at high speed. Internet is an example of information explosion. The reason behind this is proliferation of literature in all the subjects of universe of knowledge. The user should have the knowledge regarding the searching of information in the internet. Otherwise the user may be trapped by 'Net-Trap'. Various types of information are available in the internet. Different types of people are providing information on different types of products. On the other hand many people finding information on different topics. Any body can get information on an interesting topic which is important to him but that information is not necessary at the present moment. The user may busy with that interesting topic but the time has killed and this problem is called that "Net Trap". To get any information on any topic the user should go through the search engine services. These services are providing accurate, pinpointed and vivid information in a lucid manner.

The following recommendations are made for the better use of internet in the St. Paul's Cathedral Mission College in Kolkata after completion of the above study:-

- The number of computer terminals should be increased immediately
- One person should be appointed to proper maintenance of the UGC Resource Network Centre.
- Now the students are not getting the printing service for their requirement. This printing service should be provided to the students. One printer should be installed immediately at the UGC Resource Network Centre.
- To avoid virus infection in the computer machines the machines should be cleaned at a regular interval and the users should not be allowed

to enter into the computer room with any pen drive or zip drive. No personal medium should be allowed in the computer room.

- Now the internet is available in one place only. That is UGC Resource Network Centre and that is situated at the central location of the college. The internet facility should be provided to all the academic departments for easy access and necessary infrastructure should be developed.

- Campus LAN should be created as early as possible and all the buildings along with all the academic departments should be connected with Campus LAN.

8. ACKNOWLEDGEMENT :

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DEEP WEB : A NEW DIMENSION IN INTERNET SEARCHING

RAKHI CHAKRABARTI*

Abstract: With the advancedment of networking technologies the needs of web resources are growing rapidly. The Deep Web refers to World Wide Web content which is not part of the surface web and standard search engines do not find it. This paper attempts to describe the concept of Deep Web and focussing the resources of the Deep Net. Some techniques of discovering the resources on the Deep Web are briefly discussed and it also mentions the future of Deep Web.

INTRODUCTION

As we are leaving in an information age the access of network based information have become very easy and convient today due to the Internet and WWW. Through it has now become possible to be a part of "Global Village". The WWW popularly called W3 is the most advanced browsing and searching system backbone which allows its user to explore an unlimited information.

The deep Web has gotten a lot of press in recent years. According to Michael Bergman searching on the Internet today can be compared to dragging a net across the surface of the ocean, a great deal may be caught in the net but there is still a wealth of information that is deep and therefore missed. Most of the Web's information in buried far down on dynamically generated sites and standard search engines do not find or retrieve content in the Deep Web. It is estimated that the deep Web is several orders of magnitude larger than the surface Web.

WHAT IS DEEP WEB

The **deep Web** (also called **Deepnet**, the **invisible Web**, **dark Web** or the **hidden Web**) refers to World Wide Web content that is not part of the surface Web, which is indexed by standard search engines.

When we refer to the deep Web, we are usually talking about the following:

- **The content of databases accessible on the Web.** Databases contain information stored in tables created by such programs as Access, Oracle, SQL Server and DB2. Information stored in databases is accessible *only by query.* This is distinct from static, fixed Web pages, which are documents that can be accessed directly. A significant amount of valuable information on the Web is generated from databases. In fact, it has been estimated that content on the deep Web may be 500 times larger than the fixed Web.

- **Non-textual files** such as multimedia files, graphical files, software, and documents in formats such as Portable Document Format (PDF).

- **Content available on sites protected by passwords or other restrictions.** Some of this is fee-based content, such as subscription

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content paid by libraries and available to their users based on various authentication schemes.

The concept of the deep Web is becoming more complex as search engines such as Google have found ways to integrate deep Web content into their centralized search function. This includes everything from airline flights to documents in Word format. However, even a search engine as innovative as Google provides access to only a very small part of the deep Web.

SIZE

It was estimated that the deep Web contained approximately 7,500 terabytes of data and 550 billion individual documents. Estimates—based on extrapolations from a study done at University of California, Berkeley—show that the deep Web consists of about 91,000 terabytes. By contrast, the surface Web (which is easily reached by search engines) is only about 167 terabytes. The Library of Congress contains about 11 terabytes. Marcus P Zillman states that the Deep Web covers somewhere in the vicinity of 1 trillion pages of information located through the world wide web in various files or formats that current search engines on the Internet cannot find or have difficulty accessing, current search engines find about 20 billion pages at the time of writing. Zillman 2009

DEEP RESOURCES

Deep Web resources may be classified into one or more of the following categories:

- Dynamic content—dynamic pages which are returned in response to a submitted query or accessed only through a form, especially if open-domain input elements (such as text fields) are used; such fields are hard to navigate without domain knowledge.
- Unlinked content—pages which are not linked to by other pages, which may prevent Web crawling programs from accessing the content. This content is referred to as pages without backlinks (or inlinks).
- Private Web—sites that require registration and login (password-protected resources).
- Contextual Web—pages with content varying for different access contexts (e.g., ranges of client IP addresses or previous navigation sequence).
- Limited access content—sites that limit access to their pages in a technical way prohibiting search engines from browsing them.
- Scripted content—pages that are only accessible through links produced by JavaScript as well as content dynamically downloaded from Web servers.
- Non-HTML/text content—textual content encoded in multimedia (image or video) files or specific file formats not handled by search engines.

ACCESSING THE DEEP WEB

To discover content on the Web, search engines use web crawlers that follow hyperlinks. This technique is ideal for discovering resources on the surface

Web but is often ineffective at finding deep Web resources. For example, these crawlers do not attempt to find dynamic pages that are the result of database queries due to the infinite number of queries that are possible. It has been noted that this can be (partially) overcome by providing links to query results, but this could unintentionally inflate the popularity (e.g., PageRank) for a member of the deep Web.

One way to access the deep Web is via federated search based search engines. Search tools such as Science.gov and Pipl.com are being designed to retrieve information from the deep Web. These tools identify and interact with searchable databases, aiming to provide access to deep Web content.

Another way to explore the deep Web is by using human crawlers instead of algorithmic crawlers. This human-based computation technique to discover the deep Web has been used by the Stumble Upon service since February 2002.

In 2005, Yahoo! made a small part of the deep Web searchable by releasing Yahoo! Subscriptions. This search engine searches through a few subscription-only Web sites. Some subscription websites display their full content to search engine robots so they will show up in user searches, but then show users a login or subscription page when they click a link from the search engine results page.

CRAWLING THE DEEP WEB

Sriram Raghavan and Hector Garcia-Molina (2001) presented a comprehensive architectural model for a hidden-Web crawler that used key terms provided by users or collected from the query interfaces to query a Web form and crawl the deep Web resources. They built a task-specific hidden Web crawler called the Hidden Web Exposer (HiWE).

HiWE: Hidden Web Exposer

The basic actions of a hidden Web crawler, such as HiWE, are similar to those of other traditional crawlers.
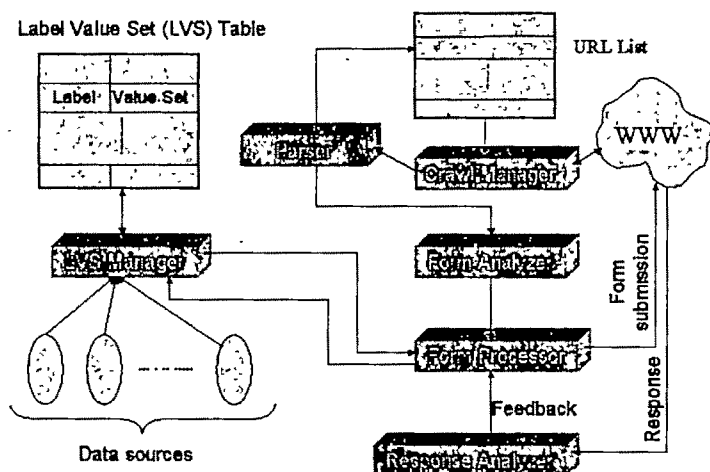
Since search forms are the entry-points into the hidden Web, HiWE is designed to automatically process, analyze, and submit forms, using an internal model of forms and form submissions. This model treats forms as a set of *(element, domain)* pairs. A form element can be any one of the standard input objects such as selection lists, text boxes or radio buttons. Each form element is associated with a finite or infinite domain and a text *label* that semantically describes the element.

The values used to fill out forms are maintained in a special table called the LVS (Label Value Set) table (Figure 1). Each entry in the LVS table consists of a label and an associated *fuzzy/graded set* of values (e.g., Label = "State" and value set = { ("California", 0.8), ("New York", 0.7) }). The weight associated with a value represents the crawler's estimate of how effective it would be, to assign that value to a form element with the corresponding label.

The basic actions of HiWE (fetching pages, parsing and extracting URLs, and adding the URLs to a URL list) are similar to those of traditional crawlers. However, whereas the latter ignore forms, HiWE performs the following sequence of actions for each form on a page:

1. *Form Analysis* : Parse and process the form to build an internal representation based on the above model.
2. *Value assignment and ranking* : Use approximate string matching between the form labels and the labels in the LVS table to generate a set of candidate value assignments. (A *value assignment* is an assignment of a value to each element of a form.) Use fuzzy aggregation functions to combine individual weights into weights for value assignments and use these weights for ranking the candidate assignments.
3. *Form Submission* : Use the top "N" value assignments to repeatedly fill out and submit the form.
4. *Response Analysis and Navigation* : Analyze the response pages (i.e., the pages received in response to form submissions) to check if the submission yielded valid search results. Use this feedback to tune the value assignments in Step 2. Crawl the hypertext links in the response page to some pre-specified depth.

Ntoulas et al. (2005) created a hidden-Web crawler that automatically generated meaningful queries to issue against search forms. Their crawler generated promising results, but the problem is far from being solved.

Google has developed a deep Web search strategy which is a smart warehousing model that tried to accomodate the sheer scale of the Web as a whole by sending a spider to pull up individual query forms and indexes the content of the form, analyzing each form for clues about the topic it covers.

Google's Sitemap Protocol and the mod_oai project are mechanisms that allow search engines and other interested parties to discover deep Web resources on particular Web servers. Both mechanisms allow Web servers to advertise the URLs that are accessible on them, thereby allowing automatic discovery of resources that are not directly linked to the surface Web.

Federated search by subject category is an alternative mechanism to crawling the deep Web.

FUTURE

The lines between search engine content and the deep Web have begun to blur as search services are providing access to part or all of once-restricted content. These services are providing free search of the content of books and scholarly papers. Google Book Search, Google Scholar, Live Search Academic and other up-and-coming services are examples of this phenomenon.

Generally speaking, if a book is out of copyright, you can view the text in its entirety. The issue of full text availability is complex, as Google, for example, often restricts access to the full text of out-of-copyright books when publishers with which it has agreements are selling them. Access to scholarly papers is also tricky. Some papers are posted on preprint or postprint archives, on Open Access journals, or on personal Web sites. When these show up in search engine results, full text access can be achieved. In other cases, the search is free but you must pay to access the content.

In essence, an increasing amount of deep Web content, especially scholarly content, is opening up to free search. As more and more publishers and libraries make agreements with the big search engines, more content will be searchable from central locations.

CONCLUSION

Since a large amount of useful data and information resides in the Deep Web and traditional search engines are facing difficulty in crawling and indexing Deep Web pages and their contents, Deep Web search engines like Science.gov, Northern Light and Pipl.com are being designed to search the Deep Web. Because these engines are narrowing their data focus, they are built to access specified deep Web content by topic. These engines can search dynamic or password protected databases that are otherwise closed to search engines.

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MEDICAL INFORMATION SUPPORT: A STUDY ON WEST BENGAL PSYCHIATRISTS

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Abstract : The intimate relationship between medical informatics and the psychiatrists have been explored here, Present paper critically discusses and evaluates the nature and scope of the Information seeking behaviour and information use pattern of 50 psychiatrists out of a total population of about 250 psychiatrists working in West Bengal. To what extent newspapers are useful to them; their publication details, journal use patterns, browsing of secondary materials, etc, have been explored. What information sources they use for their research publications have been delineated, sources used for a popular lecture and also while delivering lecture for a learned audience have been dealt with, time spent in literature search—either manually or through computer has also been covered. Dependence on the sources of their own institutions has been measured and the information need of the main protagonists on related subjects have also been assessed, Some recommendations have also been included.

Keywords : Mental health, Information need, Healthcare, Information providers, Psychiatrists

INTRODUCTION

Awareness in mental health is gaining more and more momentum as a result of increasing number of patients due to societal conflicts, changing lifestyle, changing relationships, peer pressure, consumerism, competitiveness and other reasons. Quantity in terms of number of patients, doctors and other stakeholders involved in the treatment and healing process has increased manifold. Along with governmental sector, various voluntary societies and non-governmental sectors have also come up as service-providers to cope up with this situation of heavy influx of patients. Major protagonists involved as service- providers are psychiatrists, clinical psychologists, psychiatric nurses and psychiatric social workers. Among these four, the main protagonist is the psychiatrist, To provide service to the mentally-challenged patients adequately and efficiently, the psychiatrist need a plethora of information resources for his/her hour of need.

PURPOSE OF THIS STUDY

In the above-mentioned context, the responsibility of providing precise and exact information to these mental health service providers falls upon the shoulder of the information professionals. To serve this need adequately, a proper assessment of the information need of the mental health professionals is to be done.

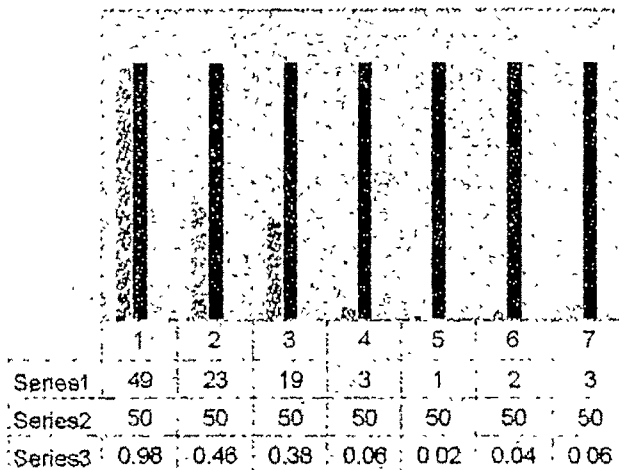* Assistant Librarian, and also ex-student, MLIS, CU.

METHODOLOGY

Initially a study of psychiatrists has been done using a questionnaire method. Questionnaires were sent by post to the psychiatrists. The Directory 2006 published by Indian Psychiatric Society- the biggest umbrella organization over the Indian psychiatrists- was used for taking up addresses of psychiatrists. After three reminders, 55 of those questionnaires were returned, Among them 5 were rejected as they were filled up haphazardly omitting most of the important items. Telephonic conversation and/or interview method was used to fill up (as far as practicable) some of the left-out items in the questionnaires.

FINDINGS

Some of the parameters considered were Sex, Age, Qualification, Professional Association membership, etc,

Qualification: The prevalent qualifications in this sector are MBBS, DPM, MD and to some extent DNB all of which are described after the table that follows it. Due to steep competition and very few MD seats (previously 2 and now 10) under University College of Medicine in Kolkata, many talented doctors fail to get a berth there Some do their Masters from other countries also, especially popular is MRCP from U.K.

Table1: Qualificationwise Distribution of Psychiatrists

	1	2	3	4	5	6	7
Series1	49	23	19	3	1	2	3
Series2	50	50	50	50	50	50	50
Series3	0.98	0.46	0.38	0.06	0.02	0.04	0.06

To become a psychiatrist, a person needs a basic bachelors degree in medicine i.e., MBBS and then a specialization in psychiatric medicine, a Diploma (DPM) or Masters (MD) or a Diplornate of National Board (DNB) or a foreign Masters as in a Master's from The Royal College of Psychiatry (MRCPsyche). A few with more academic zeal may pursue a Doctorate degree (PhD) also. The bar chart in Table 1 shows the frequency, the population and the proportion of the distribuition of different qualifications. One of the respondents has not ticked the qualification column hence MBBS degree is showing the value 49 when

it really is 50 (i.e. 100%). There are two persons who neither have done DPM or MD in Psychiatry but are practicing as psychiatrists. One of them has done DCPM (Diploma in Psychiatric Medicine).

Journal is a major source for information for this group of clientele. Here follows a list of most frequently used list Of journals:

Primary Journals:

1. Indian journal of Psychiatry
2. Bengal Journal of Psychiatry
3. Indian Medical Association Journal
4. All India Geriatric Psychiatry Association Journal
5. British Journal of Psychiatry
6. Journal of Clinical Psychiatry
7. Journal of Neurology, Neurosciences & Psychiatry (JNNP)
8. Journal of Clinical Psychopharmacology
9. American Journal of Psychiatry
10. Ind Journal of Social Psychiatry
11. Journal of Affective Disorder
12. Scandinavian Journal of Psychiatry
13. Epilepsia

Secondary Journals :

1. Psychiatry update
2. Mind Watch
3. Psychiatry Review
4. Current Psychiatric Update
5. Psychiatry Clinics of North America
6. Psychiatry in Clinical Practice
7. CNS Drugs
8. Archives of General Psychiatry
9. Current Opinions in Psychiatry
10. Journal Watch
11. Evidence Based Psychiatry
12. Indian Psychological Abstracts & Reviews
13. Mind Healer

Attachment with Governnnent and/or Non-government hospitals/Institutes:
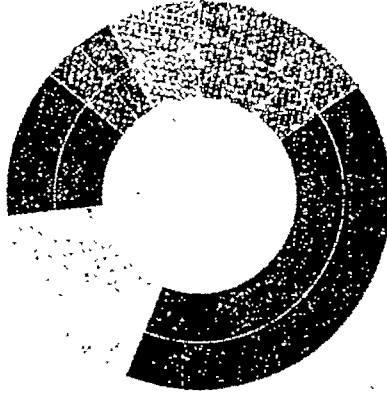
Out of 50 psychiatrists, 14 are not connected with any government organization. So, frequency of Govt. Doctors is 36 whereas proportion is 72% and frequency of Non-Govt. Doctors is 14, whereas proportion is 28%
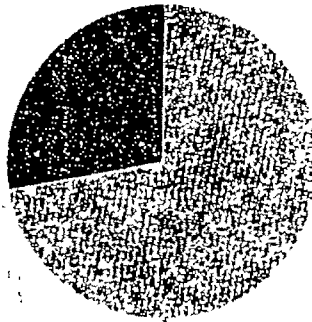
Table 3 : Distribution of Govt. – vs.– Non-Govt. Doctor

Publications : How many articles are produced by every psychiatrist is a way to judge his/her creative contribution as well as an output measure to understand the information use. Important sub-parameters are articles in national subject Journals, in newspapers arid popular magazines, in foreign Journals, complete books or chapters thereof and any other publication that may come under miscellaneous group, Ratio of time spent on information search and number of publications has shown a clear relevance supporting the initial assumption that 'time spent on information search' and number of publication' are directly proportionate,
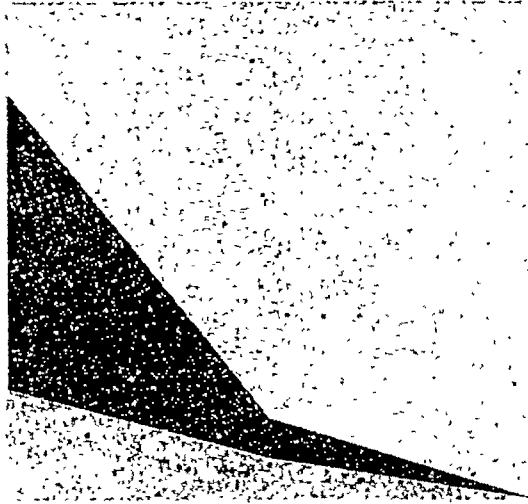
Personal Collection vs. Library : Psychiatrists use libraries for 3 hours in a week on an average whereas they use the personal collection, of professional books and journals extensively, 7 hours in a week on an average. This shows their less reliance on the adequacy and efficiency of the library service. Non-availability of Internet search facility In many medical libraries is also another reason, which we should carefully overcome by infrastructure enhancement.

RECOMMENDATIONS

Some possible and probable new initiatives needed by information providers in this sector to bridge the gap between the demand and supply of the mental healthcare information are hereby recommended, These initiatives—if adopted— may respond well to the emerging challenges in the new mental healthcare scenario

1. Information delivery in this era must take into consideration the crucial role of Internet which has become a key gateway to knowledge. This major interface must be used to its fullest potential as a specialized delivery technique.

2. Tutorials on effective information retrieval techniques are to be provided.

3. Using improved document delivery methods which would make access to materials much easier.

4. Provision of Multimedia Educational Resources and/or links to Multimedia wherever needed.

5. Providing Tips for Internet Searching.

6. Evaluating Web Sites and presenting regular and updated information of quality websites to the clientele,

7. Promoting reading (rather "information–use") habits is a topmost priority.

8, Good recordkeeping of library transactions is to be done. Otherwise quality service can not be provided even if necessary resource is available.

9. Equal & Location independent Access—Both off and on-campus students, regardless of location, should receive the same resources and services.

10. Different inventive and extra-support systems in the concerned library-cum-information centre to satisfy the super-specialty info-need and also to suit the psychiatrist's choice of specialization (as for e.g., Suicide Prevention, Drug de-addiction, Child Psychiatry, Dementia, Alzheimer's Disease, etc.)

11. The disable-friendly building (special gate, lift, slanting corridors, etc.), furniture (suitable stacks, table/chairs, etc.) and resources (talking books, Braille books, etc.) are a must to prove that ours is an inclusive society where even a disabled psychiatry student will get an all-out library support.

12. Quality assurance benchmarks are to be established,

13. Leading role in recognizing that information resources are critical to the success of a medical student's educational experience.

14. Communication—indications to the relevant resource's (both print and Online) will help medical community A psychiatrist needs to communicate well with his/her patients and a his/her community.

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ROLE OF MANIRAM GRAM PANCHAYAT IN THE DEVELOPMENT OF DHIMAL COMMUNITY IN THE DISTRICT OF DARJEELING, WEST BENGAL

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Abstract : This study describes the different aspects of development of Dhimals and the role of panchayat for the development of them. One of the principal tasks of local self government is to ensure the growth and working of Panchayati Raj Institutions and in this study the attempt is to highlight the activities of the Panchayat Raj in relation to the socio-economic development of the Dhimals Community.

0. INTRODUCTION

The demand for information is closely related to the level of development of the community concerned and this demand also increases with the passage of time. The term Development means economic and social improvement of the community[1]. Community development was described as the method of rural extension by the Government agency through which the transformation of the social and economic life of villages is to be initiated. The development tasks to be accomplished by the community development movement and the national priorities to be realised through it have come to be more precisely defined. At the same time, the concept of rural extension has broadened into that of Panchayati Raj, that is to say, the development of a set of interconnected democratic and popular institutions at the village, block and district levels in which the representatives of the people in the Village Panchayats, Panchayat Samitis and Zila Parishads and co-operative organisations function with the support and assistance of the various development agencies of Government working together as a team. One of the principal tasks of Local self Government is to ensure the growth and working of Panchayati Raj institutions so as to enable each area to realise its maximum development potential on the basis of local man-power and other resources, co-operative self-help community effort, and effective use of the available resources and personnel. In this study the utmost endeavor is to highlight the activities of the Panchayat Raj in relation to the socio-economic development of the Dhimal community.

1.0. OBJECTIVE OF THE STUDY

The objectives of the study are.

1. Discussions about the life and culture of Dhimal community at Maniram Gram Panchayet in the Naxalbari block of Darjeeling district.

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2. Identification of panchayet project and programme towards Dhimal community

3. Suggestions for the development of Dhimal community in relation to the activities of Gram pandhayet.

2.0 SCOPE AND COVERAGE

The scope of this study is to present the aspects of development of Dhimal community and the role of panchayet for the development of the said community. This study has undertaken on the Dhimal community of Maniram Gram Panchayet under Naxalbari Block of Siliguri Subdivision in Darjeeling District of West Bengal. In this Maniram Gram Panchayet, we cover Ketugapur Jote, Sheubar Jote and Surajbor jote. The survey includes only adult male and adult female's population of the community. According to voters list, the total no of adult voters of the community is 145, out of which adult male is 75 and adult female is 70. We have survey on 103 populations which is 71.03% of the adult population. Out of 103 respondents adult is 55, which is 73.74% of total adult male population and adult female is 48, which is 65.57% of the total adult female population. This study covers educational- and occupational structure, economic and social conditions, health and sanitations, religious and cultural aspects of the Dhimal community of Maniram Gram Panchayet.

3.0 DHIMAL COMMUNITY

Geographical Location

The community living under Maniram Gram Panchayet is situated in the district of Darjeeling, West Bengal There are a few hamlets or village i.e. Sheubar Jote (J L No. 14, total area 449 acres), Surajbor Jote (J L No. 18, total area 497 acres, Ketugapur (J L No. 23, total area 384 acres) (Cencus Report) under nearest Police station, block and market of Naxalluarii under **Fansl Dewa** legislative assembly in the District of Darjeeling. The international border of India and Nepal is very close i.e. less than ½ k.m from villages. The distance of the villages from the nearest market place is 6 km and 10 km from Bagdogra and 25 km from Siliguri[2]. There is a graveled road on which trucks, auto-rickshaw vans, cycle can play. The Mechi River runs in the western side of the villages. Some forests cover the Dhimal settlement. In northern part, it is covered by kalabari forest and the southern part is covered Tukuria forest.

Demographical Information

In India Terai region, the population of Dhimal is 989 in December 2003[3.] There are 148 families reside in Mallabari Village. In Dhimal community, the people are distributed in various age categories. Here number of females is higher than males and number of adult male and females is highest in the community. Dhimal view the family organizenons as socializing agent. Among the Dhimal the families are of diverse type. They normally prefer the nuclear type of families

which occupies the highest position out of the total families. Very few live in joint and broken families. In any families the highly concentration of population is to mark under the category of 2 to 5 persons.

Regarding the clans of Dhimal community different information are available. Some of them use the term 'clan' instead of the term 'family'. But mainly they do not differentiate the two terms. But most of the community people have the idea of the two terms i.e. clan and family. One term can be differentiated from the other in respect of the aspect. In this community there are fourteen(14) clans and clans had the sub clans also[4]. Distribution of the clans and the sub clans of this community is presented below:

Distribution of the Clans and Sub-Clans of Dhimal

Dongla
Ding
Talipa
Hardia
Nunia
Hardia
Nunia
Lernbang
Aunglali
Rathum
Lather
Kasher
Tharu
Jogai
Agnia

Ding   Rajding

Tengmali   Bengmali   Chomuali

Din
Dongseo   Raj Dongea   Shimal Donge   Laxmi Dongea   Nunua Dongea   Hadia Dongea
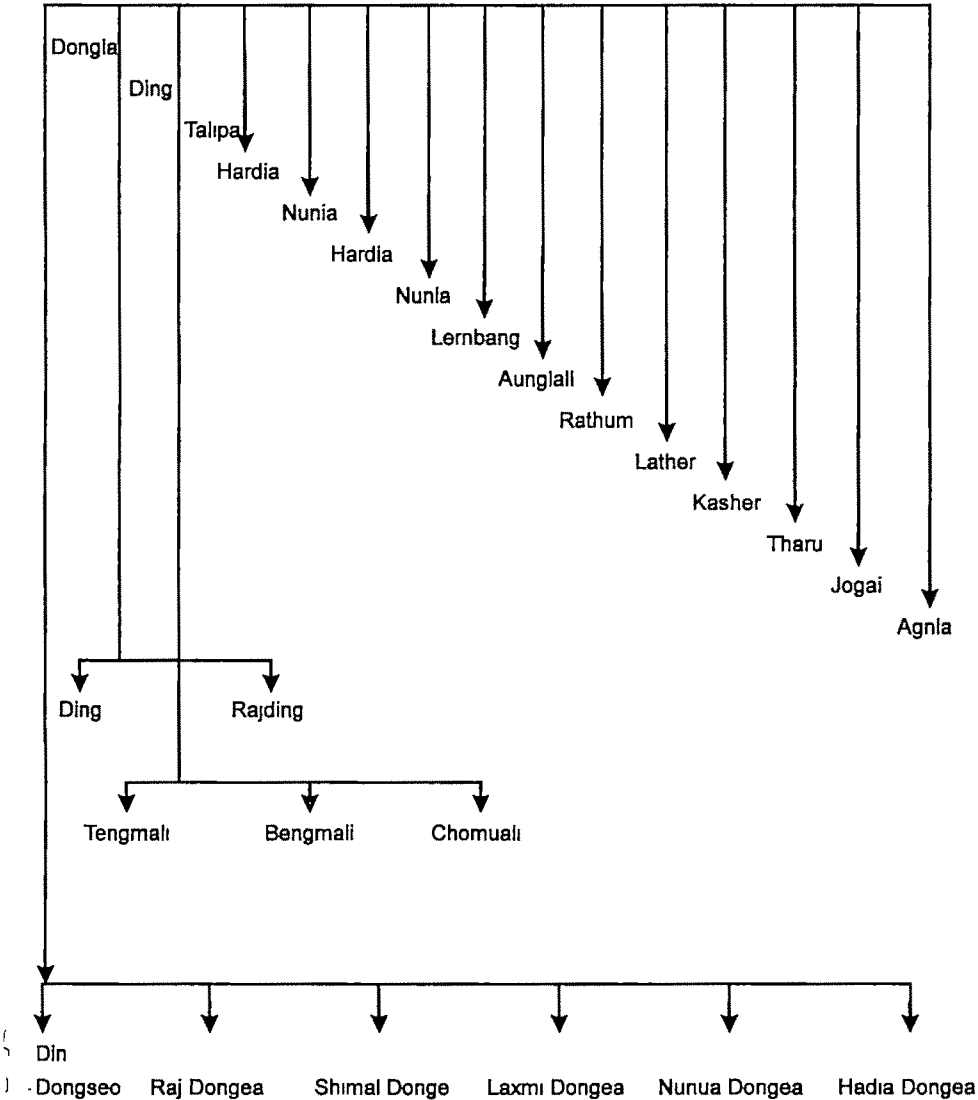
MATERIAL CULTURE:

House type

The Dhimals of Maniram are very poor. Their Economic condition determines their house type and usable equipments. The houses are mainly located beside the road and not far from Mechi River. Although the houses are settled in cluster, but in a wide view it follows the linear type.

According to Hudson "they built and furnis their own house, without any aid of crafts men, mutually assisting each cther in the work" Building material of the houses are generally bamboo, darma, and mud. The living rooms of Dhimals have two sided attached roofs of straw and wall made of split bamboo covered with mixture with soil [mud], cow dung and forest grass. The upper portion of the room's main entrance is decorated with the pictures of various designs of cow, deer, elephant, peacock, hen, and flowers and leaves. They are coloured with earthly colour.

Food and Drinks

Dhimals are non-vegetarian. They take rice, bread, bhugura and Chawul bhaja as their daily food. They abstain from beef, snacks, rats and similar vermin and the leavings of other people, but eat flows, pork, lizards and all kinds of fish. They eat both fresh fish and dry fish, but not fond of vegetables. The milk and milk products are taken by them recently. Earlier it was not viewed as necessary for health. Dhimals have started to prepare curdle-milk. 'Gora' prepared by rotting rice is very popular drink to Dhimals. Any worship or festival is not completed without 'Gora'. Besides worshiping and festivals 'Gora' also used for entertaining guests.

Utensils

Household utensils of the Dhimals are a few earthen vessels for carrying and holding water, some metallic cooking, eating and drinking pots, some bamboo and cane baskets and a couple of knives.

Social Organization

Marriage:

In the social life of Dhimals marriage has been playing a very important role for long past. Dhimals say that by marriage the Dhimal youths get the social recognition to live together and to procreate child within the society. According to them marriage does not mean the provision of living together only of male and female, at the same time, it imposes some responsibilities to the couple. After marriage, Dhimal males obtain social prestige from society. So in this community marriage is used as a transmitting medium of roles and regulations and the females get the chances to share the various responsibilities, which remain blocked to them before their marriage. Marriage allows the couple to establish legitimate relationship with the social network. Dhimals generally practiced monogamy, though polygamy is permitted. Bride-price is paid with cash and kind. Divorce is permitted with social approved. The marriage ceremony has borrowed from Hindus.

Dhimals are animists or worshippers of nature. They worship various gods like Sakodir, the family god, Jaurage, or the god of ancestors, Gramdeer, or the god of village, Dharani Berang, or the god of earth, etc. They believe in soul, ghosts and spirits. Their dhamis and jhakris or shamans are called Ojha. They have immense loyalty/allegiance towards such Ojhas. The community leaders of Dhimals are called Majhi, who officiates the settlement of disputes within the community. This practice is almost non-existent there today.

Dhimals believe incarnation of soul. They are Hinduised tribe. They observe of the ceremonial activities according to the Hindu religion. In their community totemistic notion is prevalent. In this marriage is thought as an institution. It is used to provide the authority to a pair of youths to procreate the progeny and live together. Death is viewed by the Dhimals as the transformation of soul from one from to another The life cycles of Dhimals are manifested through the various rituals of life like after birth, the name giving ceremony begins with the observance of Puring Sika Bhasing Pilu, marriage ceremony begins with the observance of Damathe Kidi, Mithkagora, Haya Mponglea, Bansha Guai and the death rituals are characterized by the dominance of Jatiya Pradhan, Jatiya Shramik etc.

Economic

In Dhimal community economy, is understood as a way of earning and making expenditures. The economic profile of Dhimals community mainly incorporates the land, agriculture, livestock, business, other sources of income and expenditures. The activities relating to the above sphere determine their livelihood and regulate the mode of relationship with others in the locality. Alike the different communities, Dhimals have accepted agriculture as their basis of livelihood. Dhimals are dependent on agriculture. Fishing, making khungi (a kind of long basket useful for fishing), making bamboo containers to protect seeds, making spinning wheels of bamboo, bhakari (a bamboo mat made of straps) and chitra (mats made of split canes) of bamboo, making ropes, bows and arrows, making ploughs and yokes, making herbal medicines, painting the walls with figures of flowers, peacock, water pots, etc, fixing the roofs of houses, weaving looms and dying clothes are their special skills. The women of Dhimal community are considered independent and they run their own privately owned businesses. They get encouragement for such work from their families but they are not entitled to a share of inherited properties. The ownership does not fulfill the need of butter and bread but secures a specific place in the society. Land in this community is divided into two categories. One is **Bhot** (i e. un-irrigated) and another is **Dhan** (i.e. irrigated). In the Bhot the Dhimals build their houses for dwelling, grow vegetables and millets, where as in Dhan they cultivate jute, wheat, and paddy. In this community, the families possessing lands up to 10 bighas are also engaged in various activities like wage labourers, woodcutters etc. Even they are found to work as agricultural labourers. The practice helps them to overcome economic crisis. Their life pattern is more or less similar to the land less workers. During the slack session in agriculture,

they sustain them by depending on forest wood or forest resources. They collect the woods from forest and sell these. It is to be highlighted that almost all the family members become engaged in activities seasonally, but without that period or most of them become workless. The community living in this locality is economically very poor. Their division of labour does not follow a particular system. Some times males perform the functions of females and sometimes it is done alternatively. In some cases children perform the duty of the adult or old and sometimes it is done in reversed order In this locality the people of other community lead comparatively better life than this community in different sphere of life.

Education & Culture

In this locality there is only one primary school, namely Ketugabur Primary School and one another child education centre is there, named Rajib Nagar colony Child Education centre. Mid day meals are supplied in the Primary school. High Schools are not situated in Mallabari village. The Dhimal children are being sent there. In this area there is no high school. Some of the Dhimal children are sent to Nanda Prasad High School, located at Naxalbari Market.

Health & Hygiene

Dhimals suffers from various diseases. They try to recuperate from the diseases. Initially, they try to care themselves with the help of magical healing. However, they go to the Government Naxalbari Hospital if they do not get any result from magical healing. They get their children immunized. More or less they are aware of all kinds of medical methods, i.e. Allopathic, Homeopathy and Ayurvedic etc. Even initially unconsciously they go to the quack. But most of the Dhimal is not aware of the communicable diseases. The Dhimals are also aware of family planning. They get the required information about it from their educated and conscious neighbours, hospitals, Panchayet. They get their drinking water from tube well, however drinking water is not always pure as it is collected from the stream in the absence of tube well. They have no sanitary system. Though they use oil, soap for bathing & mosquito net for sleeping.

4.0 PANCHAYET & ITS ACTIVITY

The activity of Gram panchayat level administration (Panchayet) is broadly in the domain of Drinking Water, sanitation, immunization, family welfare, welfare activities concerning literacy, poverty alleviation Programmes, nutrition, Women and Child Development and income generation in the deprived section and monitoring public distribution system. The Mission and ambition of Maniram Gram Panchayat administration was People Advancement through Negotiation, Co-operation and Harmony for Ambitious Yojana towards Achievement with Transparency.

5.0 FINDING & INTERPRETATION

Programmes taken by Maniram Gram Panchayat :

A. Special Programme for Rural Development

1. Swarna Jayanthi Gram Swarozgar Yojana [SGSY]

   Swarnajayanthi Gram Swarozgar Yojana (SGSY) which is meant to assist poor families to cross the poverty line is the main programme under Special Programmes for Rural Development.

B. Rural Employment Programmes

1. Indira Awas Yojana (IAY)

   The objective of Indira Awas Yojana is primarily to help construction of dwelling units by members or SC/ST, free bonded labourers and also non-SC/ST rural poor below the poverty line by providing them with grant-in-aid. 20% of the funds is earmarked for upgradation of kutcha houses including those built under Government sponsored schemes like NREP, RLEGP, JRY which are twelve years old.

2. Credit cum subsidy Scheme for Rural Housing

3. Sampoorna Gramin Rozgar Yojana (SGRY)

   The objectives of the Sampoorna Gramin Rozgar Yojana (SGRY) are to provide additional wage employment in the rural areas as also food subsidy, alongside the creation of demand driven community, social and economic assets and infrastructure development in these areas. Total expenditure was made under this head is Rs.30,00000.00 (approx) during 2004-05.

C. Community Development Programmes

1. Central Rural Sanitation Programme [CRSP]

   The objective of Central Rural Sanitation Programme (CRSP) is to accelerate sanitation coverage of rural areas by generating felt-need and demand for facilities through sustained IEC and by encouraging suitable cost effective technologies thereby bringing about reduction in incidence of water and sanitation diseases

D. Other Programmes and Projects

1. Integrated and Sustainable Development of Mechi-Riverside Wasteland and Comprehensive Environmental Conservation Project

2. Integrated Wasteland Development Programme (IWDP)

3. Nabard-Aided Rural Road Projects

4. Pradhan Mantri Gram Sadak Yojana (PMGSY)

6.0 CONCLUSION & RECOMMENDATIONS

The Gram Panchayats can specifically discharge the following responsibilities towards Dhimal community:

1. Re-organization of existing healthcare infrastructure and family welfare services through rational deployment of manpower and other resources

to ensure their optimum spread and performance within Dhimal community.

2. Utilising women Panchayat members elected from Dhimal community, self-help groups, NGOs and other social workers for widening the reach and access to information and services for family welfare, in particular enlarging the area of unmet needs, appropriate and safe use of contraceptives and neutralizing constraints in taking recourse to regulatory measures for controlling fertility consistent with respect to human rights.

3. Mobilise transportation facilities for Dhimal people particularly for emergency patients to hospital as well as doctors chamber by arranging public transport (Rickshaw van) where feasible and by encouraging local youth to start such services by linking it up with poverty alleviation programmes under which transport as income generating activity which is usually financed panchayat.

4. Making Anganwadi Centre as a pivot of activities for maternal and child healthcare with adequate training, motivation and confidence building measures so that to a large extent such centers can provide optimum possible services at the Mallabari Village.

5. Arranging extensive promotive public campaigns to the Dhimal people by mobilizing local youth on a 'volunteer' basis but with appropriate training, motivation and recognition for literacy movement.

6. Arranging for registration of deaths, births, pregnancies, marriages at the Mallabari village; social audit of cases of infant and maternal mortality.

It would thus appear from the Panchayat activities & programmes towards community people, Dhimal community peoples are mostly neglected. - In the absence of adequate economic empowerment of Dhimal community with financial assistance, employment, resources, participation and control over the knowledge power they are remains in the deprived section of the society. There is a large space available to Panchyayat to operate and to help in meeting the unmet needs of dhimal community:-

1) In this area there is no High School. Panchayat should take appropriate steps for setting up of High School in mallabari village.

2) The deficiencies in the health infrastructure, Panchayat make necessary efforts for building primary Health Centre with specialized medical Personnel and minimum infrastructures.

3) As the Dhimal belongs to the OBC category under the reservation rule of Govt. of India as well as Govt. of West Bengal, they are unable to get benefit from the Panchayat in the programme of Indira Awas Yojana (IAY). The Dhimal Community are demanding themselves as a part of the ST category people of India.

4) Programme for increasing the production with improved seed and its distribution to all the Dhimal cultivators.

5) Supply of fertilizers, pesticides for higher production of crops.

6) Programmes for the development of poultry, fish and dairy products.

7) Programmes for the development of village fuel plantation and pastures.

8) Subsidy scheme for irrigation, loan for repairs and. maintenance of community irrigation works and economy in the use of water.

9) Training programme to be conducted by Panchayat for adopting of improved agricultural practices, such as social conservation, dry farming, drainage, plant protection, etc.

10) Roads & Transportation

11) Animal husbandry

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INFORMATION GENERATION BY NEWSPAPERS : A DISCOVERY THROUGH CONTENT ANALYSIS

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Abstract: Newspaper covers whole spectrum of knowledge. Coverage of wide varieties of information in large quantity makes itself distinct from other information media. Due to its specialities, its organisation and control demands a special strategy. Makes an attempt to assess the volume and varieties of information covered by the newspapers through content analysis. The study is based on a sample set of ten big Indian newspapers covering the month of December 2006. Outlines the findings systematically and discusses their implications towards designing a retrieval system. Newspaper establishments and the designers of newspaper information retrieval systems may consider the observations in their respective jobs.

Keywords: Information coverage of newspapers; Content analysis of newspapers; Metadata for newspaper IR; Factors affecting newspaper IR; Input selection for newspaper IR system.

INTRODUCTION

Since long back newspaper has been playing a crucial role in human communication process. Considering the power and importance of newspaper, Napoleon 1 (1769-1821) told, four hostile newspapers are more to be feared than a thousand bayonets (GREY[1]). It is frequently used by people from all strata of the society for their current awareness and occasionally with retrospective use in view. The businessmen and industrialists, politicians and administrators, economists and researchers, in various fields of knowledge, seek information from newspapers for solving day to day problems as well as for their research and development works. The generation of wide varieties of information in large quantity makes it distinct from other information media.

OBJECTIVES

It is our observation that a large number of newspapers generating mountain of information, published throughout the world with the aim of satisfying information needs or demands of the information seekers, create severe problem for the information professionals regarding the storage and retrieval of such information. LANCASTER[2] found the factors 'those relating to the characteristics of the literature' as one of the major factors that might influence information retrieval. Therefore, a minute study of the information generated through newspapers may reveal some factors that have impact on newspaper information retrieval. In view of the above, an attempt has been made here to determine and identify how the newspapers generate information. Precisely,

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the aim of this study is to identify and comprehend the factors (i.e. the facts and situations) associated with newspaper information generation.

METHODOLOGY

In order to assess the factors (i.e. the facts and situations) involved with newspaper information generation, it is necessary to decide on the unit of analysis, population and sampling element. As the newspapers transmit information through words, hence the word may provide an obvious unit for quantitative analysis. In view of the above, unit of analysis for this purpose, in general, became the word. Such measure was taken for convenience, and considering that these would not hamper our purpose.

Now with regard to our goal, the population might be the information generated by all the newspapers published throughout the world. But it is not possible and convenient to cover the population due to the large volume and wide varieties of information generated by these, and thus, a sample population was considered for this study. The sample thus selected included *ten, big* (having circulation more than 1,00,000) *newspapers* on *news and current affairs,* published from *metropolitan cities of India,* covering the month of *December, 2006,* of which five were from each of *Bengali* and *English* languages. The selected Bengali newspapers were Ananda Bazar Patrika, Bartaman, Sangbad Pratidin, Aajkal and Ganashakti. Among the English newspapers, The Statesman (Kolkata), The Telegraph (Kolkata), Hindustan Times (Delhi), The Hindu (Chennai) and The Times of India (Mumbai) had been selected. The details of the procedure followed in different stages towards selection of sample newspapers may be presented through the following Table.

Selection of sample newspapers

Stage	Parameter	Number
1st	Daily newspapers in India	55,780
2nd	Newspapers on news and current affairs	972
3rd	Newspapers published from metropolitan cities	223
4th	Newspapers (having more than 1,00,000 circulation)	122
5th	By language of exposition	
	English newspapers	08
	Bengali newspapers	07
6th	By circulation	Number of copies sold per day
	Five English newspapers	
	Hindustan Times (Delhi)	11,12,160
	The Hindu (Chennai)	9,22,407
	The Times of India (Mumbai)	5,54,057
	* The Telegraph (Kolkata)	3,02,523
	The Statesman (Kolkata)	1,62,512

Stage	Parameter	Number
	Five Bengali newspapers	
	* Ananda Bazar Patrika (Kolkata)	9,00,991
	Bartaman (Kolkata)	4,61,996
	Sangbad Pratidin (Kolkata)	2,74,556
	Aajkal (Kolkata)	1,47,048
	Ganashakti (Kolkata)	1,34,558

Selection of sample is based on data available in

I) *REGISTRAR OF NEWSPAPERS FOR INDIA (RNI), GOVERNMENT OF INDIA. 2003. Press in* India, 2002-2003: Part-I. New Delhi: Ministry of Information and Broadcasting, Government of India; 2003.

II) AUDIT BUREAU OF CIRCULATION (ABC), INDIA. Average Daily Paid Circulation: *January–June, 2003. Mumbai, India: ABC, India; 2003.* for circulation figure of *Ananda BazarPatrika (Kolkata) and *The Telegraph (Kolkata).

Data were collected from the sample thus selected, which again were analysed and tabulated keeping in view the objective of the study.

In this regard, some limitations of the concerned methodology are to be kept into notice. It is obvious that every word is certainly not of equal merit and an index number (here, unit of analysis) reports mass phenomena: the law of large numbers washes out many individual differences (DE SOLA POOL, INOSE, TAKASAKI & HURWITZ[3]). Still it is felt that, inspite of all limitations, if we adopt the methodology mentioned above for identification and comprehension of facts and situations associated with information generation by newspapers, it would serve our purpose effectively.

ANALYSIS AND FINDINGS

The findings obtained by analysis of the collected data are discussed below.

Coverage of local news items

Each and every newspaper generates items on local news. Table 1 makes an attempt to determine and identify the coverage of local news items that have appeared in different newspapers.

Table—1 Coverage of local news items

Name of the newspaper	Coverage (in words)	%
The Times of India	283792	12.84
Ananda Bazar Patrika	278444	12.60
Sangbad Pratidin	264714	11.98
The Hindu	243573	11.02
Aajkal	240708	10.89
Bartaman	214814	09.72
Ganashakti	205760	09.31
Hindustan Times	174559	07.90
The Telegraph	166351	07.53
The Statesman	137184	06.21
Total	2209899	100.00

An analysis of Table 1 indicates that out of the total number of 2209899 words producing local news items, maximum (12 84%) has appeared in The Times of India followed by 12.60% in Ananda Bazar Patrika, 11.98% in Sangbad Pratidin and 11.02% in The Hindu. While, least (6.21 %) of all has appeared in The Statesman. It is to be noted that among the 8 dailies published from Kolkata, Ananda Bazar Patrika has produced maximum number of words on local news. Further, it is found that the quantity of local news produced by Bengali and English newspapers comes approximately at the ratio of 5.4:4.5 Furthermore, it has been found from the analysis that among the Bengali and English newspapers, Ananda Bazar Patrika and The Times of India, respectively, have generated maximum amount local news items.

Coverage of national news items

National news covers the items of national interest. Newspapers are found to cover national news items to serve the readers' need on various news of national importance. Table 2 makes an attempt to find out how the newspapers cover national news items.

Table—2 Coverage of national news items

Name of the newspaper	Coverage (in words)	%
The Hindu	444955	23.69
The Telegraph	370413	19.72
Hindustan Times	266835	14.21
The Statesman	225947	12 03
Ananda Bazar Patrika	131928	07.02
The Times of India	113610	06 05
Ganashakti	88178	04.69
Aajkal	80874	04.31
Bartaman	77934	04.15
San-bad Pratidin	77560	04.13
Total	1878234	100.00

An analysis of Table 2 shows that out of the total number of 1878234 words on national news, maximum (23.69%) has appeared in The Hindu followed by 19.72% on The Telegraph and 14.21% on Hindustan Times. Besides, the words on national news, produced by each of the remaining newspapers, are found at a low rate. It is found that the five Bengali newspapers have totally produced only 24.30% of the national news. Therefore, the quantity of national news, produced by the Bengali and English newspapers, comes approximately at the ratio of 1:4. In addition to the above, analysis also uncovers that among the Bengali and English newspapers, Ananda Bazar Patrika and The Hindu, respectively, have generated maximum quantity of national news.

Coverage of international news items

International news covers information on global events. Newspapers cover international news to serve the readers' interest on the event occurred

throughout the world. Table 3 makes an attempt to determine and identify how the newspapers cover international news items.

Table—3 Coverage of international news items

Name of the newspaper	Coverage (in words)	%
The Hindu	444955	23.69
Hindustan Times	396859	30.30
The Hindu	221113	16.88
The Times of India	173532	13.25
The Statesman	162583	12 42
The Telegraph	158363	12.09
Ananda Bazar Patrika	72482	05.54
Ganashakti	45966	03.51
Sangbad Pratidin	30114	02.30
Bartaman	29682	02.27
Aajkal	18875	01.44
Total	1309569	100.00

An analysis of Table 3 shows that out of the total number of 1309569 words on international news, maximum (30.30%) has appeared in Hindustan Times followed by 16.88% in The Hindu and 13.25% in The Times of India. The English newspapers, as a whole, have produced 84.94%. While, the five Bengali newspapers, in total, have produced only 15.06% of the national news, out of which Ananda Bazar Patrika has produced maximum quantity of 5.54%. Therefore, it is to be noted that the ratio of international news produced by Bengali and English newspapers comes approximately at 1:6.

Coverage of sports items

Almost every newspaper covers sports items to serve readers' special interest on sports and related activities. Table 4 makes an endeavour to determine and identify how the newspapers cover sports items.

Table—4 Coverage of sports items

Name of the newspaper	Coverage (in words)	%
The Hindu	370134	22.03
Hindustan Times	236429	14.07
The Statesman	173837	10.35
The Telegraph	159699	09.50
The Times of India	157510	09.37
Ananda Bazar Patrika	149856	08.92
Sangbad Pratidin	135616	08.07
Bartaman	102827	06.12
Ganashakti	97320	05.79
Aajkal	97138	05.78
Total	1680366	100.00

An analysis of Table 4 reveals that out of the total number of 1680366 words, maximum (22.03%) has appeared in The Hindu followed by 14.07% in Hindustan Times, and 10.35% in The Statesman. Besides, words produced on sports news by rest of the newspapers are at a low rate. Of these, Ganashakti (5.79%) and Aajkal (5 78%) are found to produce less. It is found that the English newspapers, in general, generate more items on sports than the Bengali newspapers. Among the newspapers, Ananda Bazar Patrika, in Bengali, and The Hindu, in English, are found to produce maximum sports items. It is to be noted that the ratio of sports items produced by Bengali and English newspapers comes approximately at 1:2.

Coverage of business and finance Items

Because of the growing importance of business and finance in world economy, in recent years, the newspapers are found to generate more information on it. But it is not known, till now, how the newspapers cover it. Table 5 makes an attempt to identify and comprehend how the newspapers cover business and finance items.

Table—5 Coverage of business and finance items

Name of the newspaper	Coverage (in words)	%
Hindustan Times	497804	24.55
The Telegraph	415054	20.47
The Times of India	328798	16.22
The Statesman	325309	16.05
The Hindu	279730	13.80
Ananda Bazar Patrika	91276	04.50
Aajkal	30453	01.50
Ganashakti	30332	01.50
Bartaman	15841	0.78
San-bad Pratidin	12734	0.63
Total	2027331	100.00

An analysis of Table 5 indicates that out of the total number of 2027331 words on business and finance, maximum (24.55%) has appeared in Hindustan Times followed by 20.47% in The Telegraph, 16.22% in The Times of India, and 16.05% in The Statesman. The English newspapers, as a whole, have produced 91.09% of the total sports items. Besides, the five Bengali newspapers, altogether, have produced only 8.91% of the total items on business and finance, out of which Ananda Bazar Patrika has produced maximum quantity (4.50%). Therefore, the ratio of information generation on business and finance in Bengali and English newspapers stands approximately at 1:10.

Coverage of arts and literature Items

Though newspapers are meant for news and views on various topics, still it is an interesting feature of newspapers that these also cover items on arts

and literature to entertain the readers. Here an attempt has been made to determine and identify how the newspapers cover items on arts and literature. Table 6 makes an attempt to focus on the above.

Table—6 Coverage of arts and literature items

Name of the newspaper	Coverage (in words)	%
Hindustan Times	289336	25 62
The Statesman	194571	17 23
The Telegraph	158540	14.04
The Hindu	124291	11 00
Ananda Bazar Patrika	122100	10.81
The Times of India	76712	06.79
Aajkal	63795	05.64
Bartaman	47879	04.24
Ganashakti	40234	03 56
Sangbad Pratidin	12044	01.07
Total	1129502	100.00

An analysis to Table 6 shows that out of total words generated on arts and literature, maximum (25.62%) has appeared in Hindustan Times followed by 17.23% in The Statesman, and 14.04% in The Telegraph. The remaining (43.11%) is produced by the rest seven of them. Of the newspapers, Sangbad Pratidin has generated least (1.07%). It is to be noted, here, that the ratio of arts and literature items produced by the Bengali and English newspapers stands approximately at 1:3. Further, among the Bengali newspapers, Ananda Bazar Patrika has produced maximum (10.81%) information on arts and literature.

Coverage of editorial items

Editorial items cover editorial articles, post editorial items, letters to editor, etc These items usually reflect the views of the editorial board and of the readers on various events and topics. Each and every newspaper earmarks some space to publish these items on a regular basis (MAITY & BISWAS4) . Table 7 makes an attempt to show how the newspapers cover editorial items.

Table—7 Coverage of editorial items

Name of the newspaper	Coverage (in words)	%
The Times of India	175090	14.52
The Hindu	168837	14.00
Ananda Bazar Patrika	151173	12.53
The Statesman	141179	11.70
Hindustan Times	133476	11.07
The Telegraph	118327	09.81

Table—7 Coverage of editorial Items (Contd)

Name of the newspaper	Coverage (In words)	%
Bartaman	110251	09.14
Ganashakti	84395	07.00
Sangbad Pratidin	78076	06.47
Aajkal	45411	03 76
Total	1206215	100.00

An analysis of Table 7 shows that out of total 1206215 words on editorial items, maximum (14.52%) has appeared in The Times of India followed by 14% in The Hindu, and 12.53% in Ananda Bazar Patrika. Besides, least (03.76%) of all has appeared in Aajkal. It is found that out of the Bengali newspapers, Ananda Bazar Patrika has produced maximum quantity of information (12.53%) on editorial items. It is to be noted that the ratio in between the Bengali and English newspapers, with respect to production of editorial items, stands approximately at 2:3.

Coverage of miscellaneous Items

Apart from the various categories of items discussed earlier, newspapers also publish miscellaneous items such as book review, feature article on different topics, weather forecasting, radio and TV programs, obituaries, information on emergency services, and so on. Table 8 makes an attempt to show how the newspapers cover them.

Table—8 Coverage of miscellaneous items

Name of the newspaper	Coverage (In words)	%
Hindustan Times	315981	18.74
The Hindu	251965	14.94
The Telegraph	210754	12.50
The Times of India	202374	12 00
Sangbad Pratidin	190784	11.32
The Statesman	166610	09 88
Ananda Bazar Patrika	131141	07.78
Ganashakti	104526	06.20
Bartaman	65146	03.86
Aajkal	46788	02.78
Total	1686069	100 00

An analysis to Table 8 shows that out of the total words on miscellaneous items, maximum (18.74%) has appeared in Hindustan Times followed by 14.94% in The Hindu, 12.50% in The Telegraph, and 12% in The Times of India. The remaining (41 82%) of the miscellaneous items has appeared in rest of the newspapers. It is notable, here, that out of the Bengali newspapers,

Sangbad Pratidin has produced maximum and Aajkal has produced minimum quantity of miscellaneous items. Among the English newspapers, Hindustan Times has generated maximum, and The Statesman has produced minimum amount of miscellaneous items. It has been observed that each of the English newspapers, in general, publish more miscellaneous items than the Bengali newspapers. Besides, it is also found that the ratio of miscellaneous items produced by the Bengali and English newspapers stands approximately at 1:2.

Coverage of newspaper items by type

Newspapers in present age do not consist of only news. Besides various news items, they cover views, comments on news, editorials and different items of public entertainment and education (i.e. sports, arts, literature and miscellaneous items, etc.). Therefore, now they are not only medium of news, but also the channel producing various categories of items. Table 9 makes an attempt to show the volume and variety of items, the prominence of information and a comparative output of various items generated by newspapers. It is notable, here, that the types of items, based on which the study of this Section is made, are in accordance with the categories provided by the newspapers, usually.

Table—9 Distribution of newspaper items by type

Type	Number of words	%
Local news items	22,09,899	16.84
Business and finance items	20,27,331	15.44
National news items	18,78,234	14.31
Miscellaneous items	16,86,069	12.84
Sports items	16,80,366	12.80
International news items	13,09,569	09.98
Editorial items	12,06,215	09.19
Arts and literature items	11,29,502	08.60
Total	1,31,27,185	100.00

An analysis to Table 9 indicates that out of the various items produced by the newspapers, maximum (16.84%) has appeared on local news followed by 15.44% on business and finance, and 14.31% on national news. As revealed from the analysis, the production of local news becomes maximum in quantity. This may be caused by the newspapers' local bias to geographical territory from where they are published. Another logic behind this may be that the readers find more interest in an event at close proximity than in a more important event miles away (MAITY, 20035). Apart from the local news, the volume of information produced on business and finance is found significant resulting a high output (15.44%). This may be caused by the liberalization and globalization of economic sector in recent years that have forced the newspapers to generate more information on it. It is worth mentioning that miscellaneous items (12.84%)

have been getting more importance, which are not deemed to be published in newspapers (as it is a medium of news) This may be due to increasing public demand for information on education, entertainment and public utility services. Sports items (12.80%) reveal their importance through the pages of newspapers - that also reflects the high demand of the readers, which in turn forces the newspapers to allot special page(s) and to produce large amount of information on it It is to be noted that the appearance of various items in newspapers with significant amount of information under the broad and traditional categories plotted by the newspapers, is a reflection of the volume and variety of information needed by the readers/information seekers.

Information generated on broad categories of subjects

Newspapers generate huge amount of information on varieties of subjects. Information on these subjects is often consumed by the users. In retrieval of information, it is our observation that maximum of the approaches towards a system is made through subjects. Therefore, identification of subject metadata is regarded as one of the important phases in designing an effective newspaper information retrieval system. SRS (Subject Reference System) of IPTC (REUTER6) is an important achievement in this direction. This metadata schema provides a three tier classificatory structure for representation of newspaper items under different subjects. At the top level of the subject schema, there are seventeen broad categories of subjects. Here, in this Section, an attempt has been made to examine the validity of such subjects in the context of newspaper information transfer cycle in India. A critical 'analysis of the newspapers under study has been done keeping into consideration the seventeen broad categories of subjects as criteria for this purpose. It is worth noting here that the study in this Section has kept itself limited within textual items only. Table 10 has tried to furnish the distribution of newspaper items by subject.

Table—10 Distribution of newspaper items by subjects

Subjects	Number (in words)	%
Local news items	22,09,899	16.84
Politics	5737804	43.71
Sport	1680366	12.80
Economy, business and finance	1671091	12.73
Arts, culture and entertainment	1195887	09.11
Social issues	773191	05.89
Crime, law and justice	393816	03 00
Unrest, conflicts and war	328180	02.50
Disasters and accidents	301925	02.30
Human interest	262544	02.00
Education	202159	01.54
Labour	131272	01.00

Table—10 Distribution of newspaper items by subjects

Subjects	Number (in words)	%
Health	123396	00.94
Lifestyle and leisure	119457	00.91
Science and technology	76138	00.58
Environmental issues	65636	00.50
Weather	43320	00.33
Religion and belief	21003	00.16
Total	13127185	100.00

Analysis of Table 10 reveals that maximum items (43.71%) has appeared on politics followed by 12.80% on sport, 12.73% on 'economy, business and finance', and 9.11% on 'arts, culture and entertainment'. Items that have appeared on other subjects, are found at a low rate. However, items appearing in the newspapers are found in conformity with the seventeen broad categories of subjects prescribed by SRS of IPTC, mentioned above.

Information generated on bibliographic forms

Bibliographic form represents the content of an item. Items appearing in newspapers are represented in different forms. It is our observation that the users make use of various forms as their search key in retrieving information. SRS of IPTC (REUTER6), discussed earlier, has also a schema for form metadata. Here, in this Section, an effort has been made to examine how far the form metadata, provided by SRS, are suitable for an Indian retrieval system. A critical examination of the sample newspapers has been made for this purpose, based on the bibliographic form criteria of SRS. Table 11 has tried to present the bibliographic forms appearing in Indian newspapers

Table—11 Distribution of newspaper information by bibliographic forms

Bibliographic forms	Number (in words)	%
News item	7930134	60.41
Feature article	1489935	11.35
Column	871645	6.64
Special article	727246	5.54
Editorial	438448	3.34
Letter	288176	2.20
Literary items	241540	1.84
Quote/verbatim	210035	1.60
Review article	147024	1.12
Survey report	132584	1.01
Interview report	120770	0.92

Table—11 Distribution of newspaper information by bibliographic forms

(Contd.)

Bibliographic forms	Number (In words)	%
Statistics/Results/Listings	116832	0.89
Biography/Obituary	98453	0.75
Film review	95828	0.73
Book review	68261	0.52
Art review	56447	0.43
Factual/Eventual data	46570	0.35
Forecast	32817	0.25
Study/Teaching material	14440	0.11
Total	13127185	100.00

Analysis of Table 11 reveals that majority of the output has come on news items (60 41 %). Besides, a significant proportion has appeared on feature article (11.35%), column (6.64%) and special article (5.54%). Information appeared on other bibliographic forms are found, although, in less quantity. However, in respect of catering individual information demand, all these bibliographic forms are equally important.

Further, it has been inferred that the form metadata, prescribed by SRS of IPTC and mentioned above, are a good match with the form coverage of Indian newspapers.

CONCLUSION

The factors associated with newspaper information generation, which are to be directly incorporated (i.e. the metadata elements) in the system and some of which have indirect significance to decide upon input parameters and system configuration as well as system architecture, have been identified here. The identified metadata elements, during this study are: broad categories of subjects, bibliographic forms of newspaper items, newspaper items type, etc. The findings from coverage, in terms of both volume and variety of newspaper items, of an individual newspaper and of the whole set, revealed through this study, have significance in selecting input and deciding upon system architecture as well as configuration. The coverage of physical space (in terms of word), as allocated on different categories of newspaper items by the newspapers and is found in this study, also helps in this regard

Since the newspapers are used first time for having current information, the newspaper that generates maximum current information is rated high by the readers. The newspaper once read for current awareness purpose gets more probability to be used in future for searching and retrieval. Therefore, currency of information also may be a parameter in selecting input for development of a newspaper information retrieval system.

The factors noted above give some idea on information generation in newspapers and their implications in information retrieval. Thus any one intending to build or modify a newspaper information system might have to take into account the factors identified above to gain maximum efficiency and effectiveness from its use. Newspaper establishments may also consider the observations to review their editorial policies and practices.

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ROLE AND QUALITIES OF THE LIBRARIANS IN THE LIGHT OF DIGITAL ERA

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Abstract: The article describes the different roles played by the librarians in the digital age in addition to the normal duties played by the librarians in the earlier stage. To cope up with the present situation, librarians should posses different competencies. Article also depicts the different professional competencies as well as personal competencies which should posses a librarian in this modern context.

1. INTRODUCTION

The paradigm of the LIS Professionals has been changed for the incorporations of the new technologies in the libraries. Most of the traditional tools and techniques have been replaced by the new ones. Most of the libraries have introduced the on-line public access catalogue, provides access to CD ROM search, internet surfing and digital documents. Many of the libraries have created their home page in the web, through which the users can access their libraries from their work place also. The transition of the traditional library to the digital library is well reflected in a number of digitization projects going on at the national and international levels.

But in spite of the numerous digitization projects, the print media can not be replaced completely by the electronic media. Still now, a lot of books and other materials are published in print form along with the electronic forms Therefore, we can say that the paper-based library will co-exist with the digital library foreseeable future.

2. TRANSITION FRONT TRADITIONAL TO DIGITAL LIBRARIES

In the new environment not only the medium of information resources has been changed. but also the function of the libraries and information centers has been changed drastically. The demands as well as the information seeking behaviour of the users have also changed accordingly which can be depicted in the following way:

From	To
a) Issue and return of books	a) User—oriented information services
b) Resources in one medium	b) Resources in multiple medium
c) Library has its own resources	c) Library resources beyond the wall
d) Service in good time	d) Service just in time
e) In-sourcing of all activities	e) Most of the services be done by outsourcing

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From	To
f) Resources reached locally	f) Resources reached global
g) Demand only print resources	g) Demand goes to print, non-print and on-line resources
h) User goes to library	h) Library comes to users
i) Only local user	i) Access comes from global

3. ROLE OF LIBRARIANS IN THE PRESENT ENVIRONMENT

Previously the library was being thought of the trinity of documents, users and library staff. But in the present century information has replaced by documents and ICT has become an integral component of the library. Hence, a library can now be well termed as quaternity of information, users, staff and technology.

In the digital era, the user will no longer depend solely on libraries for information as there are different alternate means. Therefore, more emphasis will be given to the customers and provide the library services accordingly. Library should adopt a market orientation and introduced quality service and products to satisfy the constantly changing needs of the users. Libraries must move from storehouse of information to access point and must act as information filters.

Therefore, the LIS professionals are now required to play roles which are quite different than the role that they had been playing earlier, that is book acquisition, technical processing, circulation, arranging for interlibrary loans, providing reference and documentation service, photocopying service, etc.

In the digital era, the new roles that the LIS professionals should play are the following:

3.1. As information access provider and negotiator

A librarian should have to access the implications for the library and information profession if its members are to play a full part in knowledge management. Librarian should have the effective calls for leadership and facilitation skills. He should have to understand the technological challenges and opportunities.

3.2 As Technology manager

The LIS professionals should be aware of the current technology that has already entered into the arena. He 'should be critical and evaluative on how a technology can be meaningfully adopted in the current system. He should be able to communicate to the authority in order to convince them, in order to get support and finally he should require certain basic skills in technology era.

3.3 As Collaborator

Library system should be visualized as part of the entire organization system. On the other hand, technology is facilitating common users and the staff. Hence, LIS professionals should play their role collaboratively with the users and the staff.

3.4 As Digital Information Resource Base Developer

LIS professionals should develop the digital information resource base for the users.

3.5 As Information System & Network Manager

LIS professionals should build and manage the information system. He should have the knowledge for network also.

3.6 As consultant

LIS professionals should act as consultant. For many purposes, the users may come to the library or they may require the information over telephone or email. LIS professionals should be ready to help them.

3.7 As Information Analyst

After getting the information, the LIS professionals may sometimes abstract or index them and thus they add some value and after analyzing and interpreting they provide the information to the users.

3.8 As Product Planner & Marketer

Now-a-days the users may not come to the library. Therefore the library should come to the users. Hence the LIS professionals should planning, developing and delivering their information products in such a way, so that these can be marketed.

3.9 As Intranet Content Manager

LIS professionals may sometimes download the necessary information from the Internet and after proper editing and analyzing they put the data into the local server which can be accessed by the user through Intranet.

3.10 As Archive Manager

Most of the old libraries have their rare documents. Therefore, the LIS professionals should digitize them for maximum use by the users. The e-content should be put into the server and made available to the users.

3.11 As Content Manager

LIS professionals should develop the interactive website for the library and managing the content available in it.

3.12 As Knowledge Manager

LIS professionals should have enough knowledge about knowledge management He should manage both implicit and explicit knowledge available to a particular library.

3.13 As Social Worker

As we know that all users should have equal opportunity to access and use information. Therefore, all kinds of information needed by the user should be respected. LIS professional should not always provide the information related to the academic pursuits only, rather he should provide the information viewing from a total perspective of the overall development of the society.

3.14 As Intermediary and/or Co-ordinator

A librarian is an intermediary between the users (clientele) and the document (books, periodicals, e-books, e-journals etc.)

3.15 As guide to users

A librarian is a reference serviceman and on the other hand he/she is a referral serviceman. Therefore he/she is a guide to users.

3.16 As Multimedia user

Information Technology (IT) is growing with tremendous acceleration in almost all the spheres of our life like education, training, telecommunications, computer networks, business, medicine, etc. Multimedia is an excellent technology of the present era. Multimedia plays an important role in library and Information centres in disseminating electronic/digital information services to the clientele. Therefore, today's librarian should have a sound knowledge in multimedia technology.

3.17 As Technical Processor

After the acquisition of documents, accessing, classification, cataloguing, stamping, tagging, labeling, shelving, indexing and constructing thesaurus, etc. i,e. all types of technical jobs should be done with proper care and responsibility. All these should be done according to the user needs.

4.QUALITIES REQUIRED FOR THE LIBRARIANS IN THE DIGITAL ERA

To cope up with the present scenario, regarding the application of the ICT to the libraries and also to meet with the demands of the present users through different modes, the LIS professionals should develop their skills and competencies both professional and personal level.

4.1 Professional competencies

To perform the professional duties of the LIS professionals in the present context the following professional competencies are very much essential:

4. 1.1 Education

Professionals must have the sound degree in LIS, application of Computer etc. He/She must have the habit for continuous education to keep up-to-date.

4.1.2 Commitment to job

Our jobs are mainly providing the information to the users according to their needs. Therefore, professionals should have sufficient knowledge regarding the latest development of the subjects as well as culture of the society.

4.1.3 Global thinking

Professionals should know about the vision and mission of the organization where he/she is working. He should maintain relationship with the other departments of the same institutions and also with the other institutions.

4.1.4 Skill for planning and organization

First and foremost duty of the librarians is to formulate the goals and objectives

and determines the policies and planning accordingly. He should also assign the jobs of the subordinates and supervising the staff and given guidance if required and finally evaluate.their,performance.

4.1.5 Decision making

Professionals should have the ability to take sound decision for implementing the new things in the library with minimum investment and getting the maximum.

4.1.6 Technical knowledge

Professionals should keep him/her up-to-date with the current technology available.

4.1.7 Communication skill

Professionals should have the ability to understand the needs of the user and finally he should be able to communicate to the authority. It is also necessary for making discussion with the different vendors and agencies.

4 1.8 Performance appraisal

Professionals, should analyse continuously the user statistics and statistics for using the different resources and services by the users and should take action accordingly.

4.2 Personal Competencies

To be a successful professional, and to establish himself/herself competent to the present market, besides the present competencies that have mentioned above, one should develop his/her personal competencies which are given below.

4.2.1 Value and ethics

Professionals should be self disciplined, he should readily accept the responsibility, always willing to admit mistakes if any, always be modesty, humility and always prepared him/her to make sacrifices if required.

4.2.2 Leadership

It is the ability to earn the trust and respect of others by inspiring and empowering teams of people to achieve objectives, and commending respect without demanding it.

4.2.3 Self-motivation

Professionals should be always ready to accept the responsibility for managing the development of one's career within the organization and beyond the organization if necessary. He should have commitment to lifelong learning and periodic improvement of personal skills.

4.2.4 Creativity

Professionals should always to play new and evolving ideas, methods, design and technology for creation of the new things.

4.2.5 Interpersonal skills

Professionals should have the ability to build strong work relationship within the organization and should establish partnerships at all levels,

4.2.6 Self appraisal

All professionals should have the ability to assesses one's strength and weakness and find means to improve oneself

4.2.7 Risk taking

Professionals should have the power to take risk for implementing new things to the organization.

5. CONCLUSION

The role of the librarians is evolving to that of information access provider, negotiator, intermediary, organizer and preserver of digital information, educator, content and internet developer. To perform all these roles, the librarians have not only to adopt their traditional skills of collecting, organizing and retrieving information to the digital environment but also have to possess some enhanced skills and competencies to perform their role effectively LIS courses should be geared to the changing needs of the society and offer such courses as provide graduates with necessary skills and competencies with which they can gain employment upon graduation as well as the vision and understanding which might help them to cope better with the rapidly changing world in which we live.

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USE OF SEMANTIC INFORMATION RETRIEVAL SYSTEM IN PUBLIC ADMINISTRATION DOMAIN

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Abstract : This study reveals the difficulties to retrieve relevant information from the government documents published in India. After identification of problems this study also reveals the criteria in support of use of semantic information retrieval system to make easy accessibility to these types of documents.

Keywords : Public administration, government, indexing, information retrieval system

INTRODUCTION

Public administration comprises the determination, implementation and study of government policies and programmes. It includes all the aspects of government operations regarding its planning, organizing, coordinating, controlling and evaluating. All the government operations are concerned for public, residents of a continent. Public administration is a feature of all nations, whatever their system of government. Within a nation it is practiced both at central and local level.

Government is the "the governing body of a state or the system by which a state or community is governed or the action or manner of governing a state, organization or people"[1] In other words it can be said the government is responsible for executive function of the country. These involves administering, supervising all the aspects of the country through making the power, enforcing the rules and regulation, establishing orders, introducing laws etc. To make known the information of its activities, the government publishes the official records as government documents. These documents may exist in printed or electronic media.

The government is concerned in various degrees to almost all the classes of persons in society—farmers, educationists, labourers, capitalists, industrialists etc. The function of democracy depends upon the active and intelligent participation of the people in the governmental process. The government too has the responsibility to interpret and justify their policy. Even for maintaining law and order, rules and regulations have to be explained to the public. Apart from these the operations of the government always necessitates the collections of various fundamental facts through surveys, investigations, researches, studies etc. Preparation of reports to these studies and making them available to public are the important activities of a government of any democratic country like India.

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In India most of the documents are published in print media, which are in the form of reports, serials, journals loose leaves, pamphlets etc. Very recently some of them are produced in computer readable formats and also through World Wide Web

These documents cover varieties of data, information and knowledge of every discipline both at macro and micro levels under public administration domain.

OBJECTIVES OF STUDY

- Identification of exact problems to retrieve relevant information from the government resources in India.

- Using of semantic information retrieval system to make easy accessibility to government documents published in India.

IMPORTANCE OF STUDY

The users of government documents increasingly recognize the importance of the documents as primary source of information. The information seekers of these documents are a very wide group, comprising students, teachers, businessmen and scholars of every discipline, industrialists, scientists, politicians, legislators, planners and general public.

- This study helps library and information science professionals to serve the wide group of users of the government resources.

- This study helps to frame a government information retrieval system.

- This study helps to manage these types of documents in the libraries and information centres.

RELATED WORKS

A good number of research works have been carried out regarding the information system based on the government publications of different countries. Some of these, relevant to this study have been surveyed.

In the year **2001**, C. K. See[2] has discussed about the bibliographic control, access to information, conservation, preservation, application of information technology, information policy regarding the government information, government publication in the four new associations of Southeast Asian Nations countries and six original ASEAN countries.

In the same year, J. A. Shuler[3] has presented a growing body of standards and techniques, designed to make government information more widely available within the framework of the integrated library information system.

In the year **2002**, R. Marcella, G. Baxter and N. Moore[4] have examined the application of new data collection tools, which includes interactive electronically assisted interviews of the members of the parliament regarding government organizations.

In the year **2003**, J. B. Pierce[5] has discussed about availability of US federal government health information and its usage among public.

According to D. Stern[6] new knowledge management systems would require novel approaches for data discovery, collection development and the changing role of librarian to provide new information storage and retrieval systems.

In the same year, Sherry Wilson and Kirsty Millar[7] have discussed about the indexing team at the Scottish Parliament Information Centre, which has indexed a CD-ROM of parliamentary proceedings for making easy access to the information for members and staff of the parliament and to respond promptly and accurately to all request of information.

In the same year, Howard Picton[8] has discussed about United Kingdom companies engaged in financial and related services with parliamentary affairs, which have developed their own in-house information services in the context of the work of the Parliamentary Affairs Unit.

In the year **2004**, Gercina Angela Boren Lima and K. S. Raghavan[9] have emphasized on the user-centered approach of the information retrieval to the design of information system.

In the same year, Saji S. Nair and V. K. Jj. Jeevan[10] have studied about different metadata format of different types of electronic information resources including government documents for cataloguing, classification, subject heading, key wording and indexing purposes.

In the same year, Antonio Munoz Canavate and Celia Chain Navarro[11] have done an empirical analysis of the websites maintained by the Spanish regional government administrations.

In the same year, Olivier Glassey[12] has presented a conceptual model to support governmental markup language (GovML), describing public services and life events in XML format and resource description framework (RDF) for searching, locating and retrieving governmental digital resource.

In the same year, Costas Vassilakis[13] and others has presented a generic method for providing communication between e-service delivery platform of government and the organizational information system enabling full integration of documents, submitted through electronic services into the organizational workflow to offer quality of services to citizen.

In the year **2006**, Jane Reid and others[14] have examined the concept of best entry points to search information from a database system.

In the year **2007**, Jennie M. Burroughs and Kirsten Clerk[15] examined the two running projects 'Government News for Montana' and 'New Mexico News Plus' in order to give web based SDI (Selective Dissemination of Information) to the public.

In the year **2008**, Chi-shou Lin and Kristin R. Eschenfelder[16] have carried out a comparative study of the capture and selection practices used to populate electronic depositories of born digital state government publication.

In the same year, Martia Vos and Evelyn Westerhoudt[17] made a current state of the art of government communication in theNetherlands to promote the communication quality.

In the year **2009**, Jennie M. Burroughs[18] has conducted a user study regarding the frequency of government information use, methods of locating and learning about the government documents, awareness of federal depository library programs and service and format preferences.

But this study is aimed to reveal a semantic information retrieval system which is the most appropriate to retrieve information from the government documents of India.

FINDINGS

After analysing the characteristics of government documents and the nature of information present there, the difficulties to retrieve required information have been observed. On the basis of this observation, the use of a semantic information retrieval system in retrieving relevant information from these types of documents is studied.

Characteristics of Government Documents:

There is a lack of necessary aids to locate information within the documents. None of these reports contains any index to the content of the document. Though most of them have content pages, the names of the chapters do not always reflect the subject content dealt within it. Again the terms used in the content pages of these reports are insufficient to locate any information within the document. Also the titles of these documents are not self expressive in most of the cases and even they couldn't express their thought content sufficiently (e.g. Annual Administration Report, Primary Census Abstract, Supreme Court Law Report etc.). Even many of them lack any title. These difficulties may be categorised as structural difficulties.

Another type of problem in retrieving relevant information from these documents is faced by the user due to its factual nature of information. Some examples can be sited here. Some important government documents like budgets, debates of legislative bodies, gazettes, committee reports, census etc. provide a wide variety of factual information regarding government decisions and activities on every aspect of civil life. It has been observed that most of the government documents published in India contain factual information in different fields of knowledge. But all are confined with the discipline public administration. It is also noticed that sometimes one document may contain more than 200 concepts (e.g. legislative proceedings), all of which should have accessibility. Only subject headings couldn't convey the exact information dealt within it. Again structurally they are not like simple monograph i.e. there is a lack of as usual content page or index etc.

The library catalogue or the online public access catalogue for this type of documents contains the author name, title, name of publisher, date of publication and necessary subject headings. In case of online access catalogues, any of the above mentioned attributes are searchable and also any of the keywords, present in any of the attributes for any record are searchable. The most useful access key to these documents is subject key.

But the subject headings used for library catalogues provide only a gross access tool to the content of this kind of documents.

In case of electronic government resources same problems have been faced by the user. Even the documents published through World Wide Web also create same problems to locate relevant information.

For this reason, it is important to use a user oriented information retrieval system which can make easy accessibility into government documents to facilitate their use as a research resource for the study of policies, actions taken by the Government.

Semantic Information Retrieval System

A computer based semantic information retrieval system may be the gateway to this kind of primary documents. The purpose of any retrieval system is to retrieve information required by the user. It should make available right information to the right user. In other words an information retrieval system should facilitate the matching of author's expressed ideas in the document with the user's requirements. A computer based library catalogue or online public access catalogue is bibliographic information retrieval system, where subject heading is the only access key excepting the bibliographical details. A technique, called indexing provides a refinement over the subject headings, used in the library catalogue. 'This process should involve intellectual analysis of the subject matter of a document to identify the concepts represented in it, and allocation of the corresponding preferred terms to allow the information to be retrieved'[19]. Pre-coordinate indexing system like Postulate-based Permuted Subject Indexing (POPSI) developed by G Bhattacharya[20] can be the base for the information retrieval system.

Features of the Semantic Information Retrieval System should be as follows:

- It should be based on the deep structure of subject indexing language. This should involve facet analysis in order to design the semantic structure (genus-species, whole-part, broader subject-narrower subject relation), elementary structure (postulate-based categories) and syntactic structure (representation of full context according to rules of syntax) of subject. [20]

- It should represent the semantic relations between the facets (elementary categories) within each concept through the elementary and syntactic structure

- It should express the full context of each concept through representing the all the facets with their relations between them.

- The approach terms within the syntactic structure of subject index entry should be supported by controlled vocabularies.

- In the context of the Central Government and the State Governments of India, different government bodies or organisation are responsible

for different types of activities. All these should be present in the context reflecting appropriate relations and also should be the searching criteria for these kinds of documents.

- It should provide contextual browsing and contextual searching through one or more than one keywords Contextual browsing should facilitate searchers to browse the information with their full context available in the database. Contextual searching should facilitate searchers to find out specific information with full context and also facilitate searchers to create context based queries.

- This system should be user-friendly to maintain currency, relevancy, reliability, and authenticity through easy updating, editing, storing, and securing of the database.

CONCLUSION

For indexing of government documents precoordinate indexing system is most appropriate and Postulate based Permuted Subject Indexing (POPSI) system is most suitable for this purpose. It can provide all the types of possible approaches for searching and retrieving information from these types of documents. This indexing language can prepare a *semantic network* for any concept, which is most appropriate to retrieve information from the Government Documents. Hospitality, compactness, flexibility etc. are the main properties of this facet analysis based semantic information retrieval system. This type of information retrieval system is most useful where cataloguing only cannot be the sole mode for satisfying users' demand. This information retrieval system may also help the library professionals to organize complex nature of government publications in their libraries. This system also can be used in support of knowledge base in case of e-governance.

Scope for Further Study : Based upon the present study, a model can be framed in practice. The authors are carrying out the further necessary studies in this regard.

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